Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XIV, NO. 2
CONSECUTIVE NO. 3

Practical Pharmacy Edition

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FEBRUARY, 1953

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January Council Meeting

THE Council of the AMERICAN PHARMACEUTICAL ASSOCIATION met in Baltimore on January 16 and 17, 1953, at the Sheraton-Belvedere Hotel. Members of the Council attended the ceremonies incident to the dedication of the Kelly Memorial Building on the afternoon of January 16, and on the evening of that day gave a testimonial dinner to Dr. H. A. B. Dunning which is referred to elsewhere.

The Council received reports on the progress of National Formulary revision, the Laboratory and the JOURNALS, from Messrs. J. L. Powers, Samuel W. Goldstein, Robert P. Fischelis and Bernard Zerbe, respectively.

Steps were taken by the Council to establish the American Pharmaceutical Association Foundation for the purpose of receiving special funds and bequests to be applied to research and studies of problems dealing with the professional aspects of pharmacy.

President Richards made a comprehensive report of his activities since the last annual convention and offered a number of recommendations for the consideration of the Council.

International Meetings

The appointment of delegates from the ASSOCIATION to the meeting of the International Pharmaceutical Federation to be held in Paris, September 14–18, 1953, was discussed and every effort will be made to have a large American delegation in attendance at this important event, as well as at the British Pharmaceutical Conference which will be held in London, August 31 to September 4, 1953, and to which American pharmacists are cordially invited by the Pharmaceutical Society of Great Britain.

Members of the AMERICAN PHARMACEUTICAL ASSOCIATION who are planning a European vacation in 1953 and who can arrange their itinerary to take in these pharmaceutical meetings are urged to inform the Secretary of the A.PH.A. of their plans, so that they may be named as official delegates to the meeting of the International Pharmaceutical Federation, if possible. The ASSOCIATION is entitled to a limited number of delegates but individual pharmacists are welcome at the meetings regardless of any standing as official delegates.

Salt Lake City Convention

Considerable time was spent by the Council in reviewing the program for the convention of the ASSOCIATION in Salt Lake City next August, and it was decided to revert to the type of program which had been customary prior to the Centennial Convention. The Council instructed its Committee on Standard Program to study a rearrangement of the schedule for future conventions in cooperation with the affiliated and related organizations which meet with the A.PH.A., so as to spread attendance of all groups through the week. It was the consensus that such an arrangement would be more satisfactory for all concerned, and it was also decided to ask the House of Delegates to adopt a schedule of meetings two years in advance. Mr. John B. Heinz was named general chairman and Dean L. David Heiner, co-chairman of the convention committee. Mr. W. Everett Boyden was named secretary of the Committee and Mr. Christopher E. Athas, treasurer.

Much time and thought were devoted to the consideration of the finances of the ASSOCIATION and the preparation of the budget for the current year. The expenditures in connection with the Centennial

Convention were reviewed in detail. General satisfaction was expressed with the accomplishments of the Centennial Year as reflected in the Philadelphia Convention Program and the Founders' Day Celebration at Washington, including the participation of local and student branches throughout the country which met to receive the program broadcast from Washington.

Dues to be Increased

After careful consideration of the many projects which the ASSOCIATION desires to undertake and the necessity for supplying manpower and facilities to carry them out, the Council voted to increase the Annual Dues of the ASSOCIATION to $15.00, effective September 1, 1953. It was felt that additional finances thus acquired will make it possible to plan for enlarged services and to meet the increased costs of carrying on those now given.

F. D. A. Inspection

Attention was called to pending Federal legislation, with special reference to the proposed request of the Food and Drug Administration for a revision of the Federal Food, Drug and Cosmetic Act, authorizing factory inspection. In this connection it was pointed out that it is necessary to safeguard the physician-pharmacist-patient relationship in the matter of holding prescription records confidential, and that it would appear unnecessary for the Federal Authorities to enter into a program of increased inspection of retail pharmacies which are already subject to inspection by State Boards of Pharmacy and Boards of Health. The Secretary was authorized to issue the following statement in this connection:

"The AMERICAN PHARMACEUTICAL ASSOCIATION is not opposed to the inspection at reasonable times of establishments concerned with the production and distribution of drugs and medicines in order to assure proper protection of the public against fraud and injury to health. However, the ASSOCIATION is mindful of the established professional relations between physicians, pharmacists and patients, expecially with regard to prescription files. It believes that the inspection privilege should not be extended to confidential business and professional records which have no specific bearing on the enforcement of the Food, Drug and Cosmetic Act. To avoid unnecessary interference with the activities of pharmacists in their prescription departments and the extension of the inspection privilege into confidential records, the ASSOCIATION believes that the purpose of the permitted inspections should be more clearly defined. In this connection, it is pointed out that State Boards of Pharmacy and other agencies are constantly inspecting prescription pharmacies and that Federal inspections are necessary only in unusual cases for the protection of the public interest. Furthermore, the power of subpoena is available to the Federal authorities for investigations involving specific violations."

Uniform Narcotic Laws

The Council also took a strong stand against changes in State Narcotic Acts which would disturb their uniformity with the Federal Act. In view of the well-known efficiency of the Federal Narcotic Bureau and its understanding relationship with the medical and pharmaceutical professions, the Council believes that all necessary changes in laws governing the distribution of Narcotic Drugs should follow changes in the Federal Act, rather than precede them. It was felt that this is the only way to establish and continue uniformity of law enforcement and public protection and convenience in this field.

Council Honors Dr. Dunning

MEMBERS of the Council of the A.PH.A. honored Dr. H. A. B. Dunning at a testimonial dinner on the evening of January 16. Dr. Dunning's term as a member of the Council will expire with the 1953 Convention. Under the new by-laws a member cannot serve more than two consecutive terms of three years each without an intervening year.

Dr. Dunning has given long and outstanding service to the ASSOCIATION in many capacities. He was its President in 1929–30, and more than any other man in American Pharmacy he was responsible for the acquisition of the property and the raising of the funds for the building of the American Institute of Pharmacy in Washington in which the AMERICAN PHARMACEUTICAL ASSOCIATION is now housed.

Dr. Dunning also gave the ASSOCIATION its beautiful War Memorial, dedicated

to all pharmacists who served in the wars of our country, and he has been a frequent contributor to special projects carried on by the ASSOCIATION. His long-time service as a member of the Council and his many benefactions were referred to in intimate and glowing terms by former Council members George D. Beal and Robert L. Swain, who were special guests of the Council on this occasion. On behalf of the present Council members, Secretary Robert P. Fischelis presented Dr. Dunning with a gold Life Membership card suitably inscribed.

Dr. Dunning responded in a happy mood and pledged his continued interest in the affairs of the Council in an advisory capacity when his present active membership on the Council expires.

A Fitting Memorial

TUCKED away amid the imposing structures of the growing Medical Center of the University of Maryland, on its Baltimore City Campus, yet comfortably located on a prominent corner, with plenty of "breathing space" and nicely landscaped surroundings, we now find a neat, colonial, one-story building known as the Kelly Memorial.

Small by comparison with surrounding structures, but large in its significance to Maryland Pharmacy, and imposing in its relation to American Pharmacy, this building commemorates the life and work of one of pharmacy's most beloved characters and one of its outstanding contributors to the public health.

As one enters the doorway to this memorial building the personality of the man it honors seems to be felt immediately. The lifelike bust of Evander F. Kelly almost smiles the welcome to which those who knew him were accustomed. The Memorial Room with desk and chair which Dr. Kelly used, as first full-time Secretary and General Manager of the A.PH.A., at the American Institute of Pharmacy in Washington, is a reminder of the quiet atmosphere in which he did his creative work. The library facilities and the conference room, the offices, and the well-appointed meeting hall in the basement, add utility to beauty, dignity, and simplicity, thus providing a living, pulsating unit to the University which Dr. Kelly served so well.

The energy and sacrifice which went into the planning and realization of this memorial are matched only by the lifetime of devotion which Dr. Kelly gave to American pharmacy.

To all who contributed to the funds which made this memorial possible, and especially to the Chairman, H. A. B. Dunning, and the Kelly Memorial Committee, American pharmacy can say: "Well done! You have provided a fitting memorial to one of pharmacy's noblemen."

Professional Ethics

BEGINNING on page 87 of this issue we bring you three significant contributions to the current discussion of inter- and intra-professional ethics. These addresses and the timely introductory statement by President Richards, as well as the interpretive remarks of Council Chairman Little, constitute an analysis of, and remedial suggestion for, some of our most perplexing professional problems.

Apparently, the health professions have not escaped unscathed from mankind's encounter with the reduction in moral stamina growing out of world wars and their aftermath.

Neither poverty nor prosperity seem to have added to man's moral stature in these days. And yet there is recognition of the unfairness which springs from ignoring the Golden Rule, so basic to proclaimed codes of ethics.

As violations of established codes in medicine and pharmacy are pointed out, the reaction is mixed. There are some who advocate a weakening of the established codes by rewriting them to fit reduction in moral tone. Others clamor for laws to make the codes enforceable by police action.

Where are we really headed? Are the professions losing their perspective in attempts to rationalize practices growing out of the competitive climate in which they are compelled to function? Are we going to have codes of ethics written by the public through its delegated representatives in the halls of Federal and State legislatures?

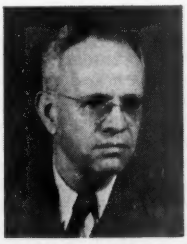
Certainly the leadership in American medicine and the allied professions can meet the challenge to correct unethical and unprofessional practices, without yielding to expediency. The A.PH.A. Founders' Day papers and the Centennial Convention resolutions clearly point the way.

Inter- and Intra-Professional Ethics

On October 7, 1952, as part of its celebration of Founders' Day, the AMERICAN PHARMACEUTICAL ASSOCIATION *invited outstanding leaders in pharmacy and medicine to a conference to examine the entire area of professional relations between pharmacist, physician and the industry serving the health needs of the public. The conference was held in the Lecture Room of the National Academy of Sciences which is adjacent to the Headquarters Building of the* A. PH. A. *in Washington, D. C. Proceedings of this important meeting appear on the following seven pages. The conference was opened by Mr. R. Q. Richards, president of the* AMERICAN PHARMACEUTICAL ASSOCIATION, *and Dr. Ernest Little, chairman of the Council, was the presiding officer. Another participant in the program was Judge Thurman Arnold, whose contribution to the program, "Professional Ethics, Morals, and the Law," was published in the December 1952 issue of* THIS JOURNAL.

INTRODUCTION, by R. Q. Richards,

PRESIDENT, AMERICAN PHARMACEUTICAL ASSOCIATION



THE actual birthday of the AMERICAN PHARMACEUTICAL ASSOCIATION is October 7, 1852. It was on this day in the city of Philadelphia that the twenty-four pharmacists who had assembled on October 6 reached agreement on the Constitution which had been in course of preparation and under discussion. The adoption of the Constitution, and with it the name of the organization, was the formal act which brought the first organization of pharmacists in America into being.

Meetings for the consideration of problems of national interest to pharmacists had been held and the most notable of these was the meeting of representatives of colleges and associations of pharmacists in New York City on October 15, 1851. This was the

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precursor of the Philadelphia meeting about one year later and we commemorated this meeting in New York City last year with a special ceremony under the auspices of the New York Branch of the A.PH.A. at the New York College of Pharmacy, Columbia University, in whose lecture room the original meeting was held in 1851. A plaque commemorating the occasion is now on display in the main corridor of the New York College of Pharmacy on West 68th Street.

In August of this year we held our annual convention in Philadelphia, and the entire week was one of celebration of the founding of our organization with special emphasis placed on the centennial at the Ceremonial Session and Centennial Banquet on August 20.

Today we meet to commemorate the actual date of the founding of the ASSOCIATION and we have, in addition to our program here this afternoon, a nation-wide participation scheduled for tonight with the local and student branches of the ASSOCIATION numbering more than 100, meeting in 62 cities throughout the United States and connected by telephone to a special meeting of the City of Washington Branch of the A.PH.A. at the Statler Hotel from which a program will be transmitted to the assembled members of the ASSOCIATION in the cities referred to. More than 12,000 active and associate members of the AMERICAN PHARMACEUTICAL ASSOCIATION will listen to the same program. I hope that you will all join us in this unique assembly and unusual program.

This afternoon's conference is an outgrowth of discussions at our Centennial Convention in Philadelphia and I am going to take the liberty of reading a paragraph or two from my inaugural address delivered at the Second General Session of the ASSOCIATION held at the Bellevue-Stratford Hotel on Tuesday, August 19. It seems to me that the passages which I shall read furnish the background for the subject of this afternoon's conference.

"For some time we have been struggling with the revision of our Code of Ethics. Rearranging words in a Code of Ethics, such as ours, is of minor importance. The important factor that we must keep in mind is that the Code shall continue to be a set of rules of conduct, stated in the form of broad principles, to which professional men can adhere without surrendering their personal freedom, and without having these principles used merely for publicity purposes.

"Almost since its beginning, our Code of Ethics has been divided into three sections; one section deals with the relations of pharmacists to the public; another deals with relations of pharmacists and physicians; and the third deals with the relations of pharmacists with each other.

"The recent survey of American pharmacy called attention to the lack of a complete understanding between medicine and pharmacy. Representatives of our ASSOCIATION have discussed these problems with the American Medical Association, and we find that the medical profession is also struggling with revision of its Code of Ethics to meet new situations arising from new alignments of various professional functions related to medical care. Let me emphasize again, that the basic principles which govern the conduct of professional people are not subject to rapid change. New concepts of relationships between professional and nonprofessional groups in the field of medical care require revision of details of conduct, but the general principles remain the same.

"I think it is safe to say that each of the professions connected with medical care can readily solve the problems that arise in relationships between members of their own professions. However, when we give consideration to the relations of the professions with the public, and with each other, we are not the sole judges of what is right and proper and ethical. It seems to me, therefore, that as we face the second century of progress in American pharmacy, it is incumbent upon us to sponsor a meeting of minds between the various professions and the promulgation of an interprofessional code, which will recognize the problems of each profession and give due consideration in solving these problems to the rights and privileges of other professions."

It is altogether fitting and proper that on this 100th birthday of our ASSOCIATION we should look forward and stop for a moment to explore the bases for inter-professional relations as well as intra-professional relations of the future.

Much has been said in recent months about ethics and morals in government. Since we are a democracy it must be expected that the ethics and morals in government are a reflection of the ethics and morals of the governed. As a professional group we are expected to be leaders among the people. I believe we are very fortunate in having persuaded those who are to take part in our program this afternoon to join with us in exploring this important factor in the future progress of our profession.

I am pleased to present to you as the presiding officer for this afternoon's conference, one who has been a president of the AMERICAN PHARMACEUTICAL ASSOCIATION, a president of the American Association of Colleges of Pharmacy, a teacher, administrator, scientist and leader in organization activities. He is at present the chairman of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, Dr. Ernest Little.

Ernest Little: *We are meeting here today for a continuation of our recognition and celebration of one hundred years of distingished service on the part of the* AMERICAN PHARMACEUTICAL ASSOCIATION *to our people of this country. Its service is just as broad as that. During all these years our* ASSOCIATION *has rendered a service which may well be a source of pride to all of us and a challenge for better work in the years to come. Although some of us become impatient with the growth of our* ASSOCIATION, *we do realize and appreciate that its growth has been satisfactory during this period of time and little short of phenomenal during the past ten years. From a membership of twenty-four in 1852 it has increased to approximately twenty-four thousand in 1952. Our increase in membership has*

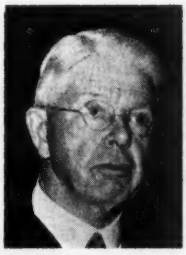
been roughly tenfold during the past decade. I believe our President has given us an adequate immediate background of today's meeting—the reason for our being here. It is a source of great satisfaction to me, as I know it is to you, that such prompt action has been taken on resolutions passed at our centennial meeting during the latter part of August. We hope that our meeting here today will be the forerunner of other even more fruitful meetings dealing with the inter- and intra-professional ethics. All professions are of course interested and greatly concerned by the ethics of their practitioners. This is necessarily so; otherwise they would not quality as professions.

We have met here this afternoon to discuss the general thesis of inter- and intra-professional ethics. We have been most fortunate in obtaining outstanding men in our own and other professions to discuss this and closely related topics. The first speaker on our panel is a distinguished representative of the medical profession—Dr. Ernest Edward Irons. Dr. Irons is a physician, having practiced in the city of Chicago for almost half a century. He has his Bachelor of Science and his Doctor of Philosophy Degree from the University of Chicago, and his Doctor of Medicine Degree from the Rush Medical College. He taught many years in medical schools; he is a professor of Clinical Medicine, Emeritus, at the University of Illinois; Consultant Physician at the Presbyterian Hospital. He is Honorary Consultant to the U. S. Navy; he is a member of the American College of Physicians, the American Association of Pathologists and Bacteriologists, and of the American Society of Bacteriologists. He is a member and past president of the American Medical Association, being president in 1949 and 1950. He is a member of the Illinois State and Chicago Medical Societies, Chicago Pathological Society, Chicago Society of Medical History.

Dr. Irons, we are happy to have the American Medical Association represented on our program this afternoon, and we are especially happy that that representative is Dr. Ernest Edward Irons. Dr. Irons . . .

THE MEDICAL PROFESSION, by Ernest Irons, M. D.,

PAST PRESIDENT, AMERICAN MEDICAL ASSOCIATION



I AM greatly honored by your invitation to join you in this, your Founders' Day Centennial Meeting, as a representative of the American Medical Association.

The meeting in this building recalls the years of World War II when some of us met here biweekly with your representatives on the Committee on Drugs and Medical Supplies. The renewal of acquaintance formed then is a continuing source of pleasure. Pharmacy and medicine have traveled the long and often difficult century road together.

In medicine the early years of the first half of the century marked by this Centennial, proceeded quietly and were characterized to a considerable extent by continuing tradition and empiricism in a still sparsely settled country surrounding a few larger centers. Standards of medical education were low and were matched by similar low standards in pharmacy and in the quality of materials of therapy. The ancient polypharmacy of preceding centuries was still in evidence.

Lack of imagination and of scientific information and complacency with existing attainments were illustrated in the inaugural address of a surgeon in the 1860's, who asserted that surgery had now reached its limit of accomplishment and all that now remained was to improve minor points in technique. This remark is reminiscent of the physician of the 17th century who, commenting on Harvey's announcement on the circulation of the blood, said that it contravened the statements of Galen and that if the dissection was correct, nature must have changed.

As this half of the century closed, the new science of bacteriology was increasing its stature as a part of medicine, the action of drugs was being further disclosed by pharmacologists, and the X-ray was introduced in medical practice.

The last 50 years of our century have been the most exciting in medical history. The accomplishments of the allied medical profesions have increased the expectation of life at birth by 20 years. The first dent in death rates came through reduction in infant mortality, due to better sanitation of food and care of infants. This was a direct application of the then new science of bacteriology. Then came anti-sera for diphtheria and tetanus, and next a direct chemotherapeutic attack on organisms that had already invaded the body—e.g., salvarsan in syphilis. More recently studies of the metabolism of bacteria themselves have developed substances, nontoxic to the body, which by various mechanisms either decrease the ability of invading organisms to grow or prevent the action of their noxious products in their host. Thus the galaxy of antibiotics has changed entirely the outlook in many formerly often fatal infections. The antibiotics have contributed much to the cure and control of the great killers such as pneumonia, typhoid, and now perhaps to a less degree, tuberculosis. Prevention and control of deficiency diseases such as pellagra and beriberi by diet and by vitamins where needed is now possible, and even the invasion by cancer is amazingly delayed by altering the balance between the glandular internal secretions of the body. These are a few examples of the medical activities which

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have resulted in the remarkable reduction in suffering, disease, and death, and in which pharmacists and pharmaceutical manufacturers have been associated with medicine in research and production of effective remedies.

Research

Research, first on fundamental concepts and later on methods of production, has proceeded at a pace unimagined even 10 years ago. We do not forget the disappointments as well as the successes of the search for effective remedies. For one successful drug, hundreds of unsuccessful starts are made. Even when a drug seems to satisfy all laboratory tests, it still may have to be discarded by reason of unforeseen effects revealed in clinical trials directed by trained clinicians in the hospitals and clinics of the nation.

Manufacturers have been active in their research laboratories and have invested millions in plant equipment necessary to produce effective drugs in quantity to supply the people of the nation at a price they can afford to pay.

Competition

Competition makes for progress and has hastened the pace of research, manufacture and clinical application and testing of new and useful remedies in medicine. Compare the lag in acceptance and use of Jenner's vaccination against smallpox, with the avidity with which a new remedy is taken up by the professions and the public today. In the early years of this our Centennial Century, an annual meeting of the American Medical Association was devoted largely to urging physicians to use and promote vaccination to prevent smallpox, although this method had been already known and used for 50 years.

Competition among manufacturers has in the past sometimes tended to overshadow practical caution which should regulate promotion of new drugs.

Competition in the lay press for news stories also has led to premature announcement of medical matters which should have been first submitted to professional agencies for critical evaluation. The publicity thus given to insufficiently tested or unworthy remedies has caused untold misery and disappointment through blasted hopes of sufferers willing to snatch at any help for cure.

Inter-professional Problems

Despite the progress along many lines in both our professions, we now meet unsolved inter-professional problems, some of which are old; others have resulted from the very fact of progress.

The evils of *secret composition* have been largely corrected by the passage of laws formulated under the direction of leaders in pharmacy and medicine. These laws now require the disclosure of the formulas of remedies offered to the medical profession and the public.

But as your President points out, the shelves of the pharmacies are now further crowded with a multitude of new products—correctly labeled it is true—similar in action and often identical, differing only by their coined and brand names.

The desire of manufacturers to establish their own brands is understandable but nevertheless the problems of the pharmacist and his shelves are burdensome.

The evaluation and approval of names of new drugs and the consideration of coined and brand names constituted one of the most difficult and onerous tasks of the Council on Pharmacy and Chemistry on which I served for 17 years. Nor is the pharmacist the only sufferer from this profusion of correctly labeled but duplicating products; the physician also is confused by the multitude of names and must continually turn to such catalogues and indexes as may be available.

Dispensing

The dispensing of antibiotics and others of the newer drugs on order, demands the customary fidelity of the pharmacist. The practice of combining two or more standard drugs in tablets or mixtures has the advantage of ease of dispensing, but presents the objection of supplying drugs in fixed proportions which may not meet the requirements of the patient. Still more objectionable is giving to such combinations new coined names which may fail even to give a clue as to their composition. To attempt to supply such mixtures in many varying combinations to meet all possible requests would still further weigh down the shelves of the pharmacy.

And so physicians still quite properly continue to turn with faith and satisfaction to the pharmacist to compound prescriptions planned by the physician to meet the special needs of the individual patient.

Other customs which vex both the pharmacist and physician are residual from a former age and former economic conditions. In sparsely populated communities, the physician carried his own stock of medicines in his bag and kept a supply in his office. In the absence of a pharmacy he got in the habit of maintaining his own dispensing agencies.

With no clearly effective remedies for certain diseases and for minor complaints the patient who wanted symptomatic relief, stopped in to see his pharmacist, and thus counter-prescribing grew. Neither the patient nor the pharmacist is able to foreknow that the simple cold or headache may be actually the onset of serious disease.

And so customs have failed to keep pace with changing economics and knowledge in pharmacy, medicine and public information. Now by conference and agreement these matters can be corrected, but always with care to meet local conditions and to avoid the shackling effect of wooden uniformity.

Education

Medical schools underwent a thorough revision of standards of pre-medical and medical education in the early 1900's, so that now we have no unapproved schools. But even now we find necessary changes in emphasis on this or that subject in order that the young physician may understand the language brought into clinical medicine by the introduction of concepts of physiological chemistry, the antibiotics and other remedies.

Corresponding educational changes, suited to the requirements of the profession of pharmacy, will

greatly improve the performance, ideals and intellectual satisfactions of the pharmacist. His increased preliminary education will enable him to understand the true worth of the products he dispenses, and better to distinguish between good and inferior products.

Ethics

From time to time new social, economic and professional conditions require a re-wording of the code of ethics to provide for unforseen contingencies and problems in the necessary framework of "knowledge, skill and integrity."

The American Medical Association has recently revised its code of ethics so as to indicate the procedures necessary to implement fundamental principles under new situations of changing times.

Your ASSOCIATION has just completed a similar revision. Both codes stress the same underlying principles of quality of performance and strict honesty.

In providing ethical and legal protection of the public from accident as well as from charlatanism, whether medical or pharmaceutical, we are, as your President suggests, in some degree our brother's keeper. But may I note that in fulfilling this implied injunction, our brother must understand that he is not entitled to be carried.

I close by quoting again your President: "The public regards professional men and women as people who operate on a high ethical plane. We must continue to foster such an impression on the part of the public." May I add, we must also by our performance justify this high regard.

Ernest Little: *Thank you very much, Dr. Irons. We request that you take to the members of the American Medical Association the cordial greetings of the members of the* AMERICAN PHARMACEUTICAL ASSOCIATION *and tell them please that we do appreciate having their representative with us today.*

Speaking for the drug industry, which plays such an important part in research essential to advance the latest drug products from the laboratory experiment to the bedside of the patient, we have a man who has made a study of the problems of manufacturing pharmacy during his lifetime—Mr. Eugene N. Beesley. Mr. Beesley is executive vice president of Eli Lilly and Company. He did his undergraduate work at Wabash College, receiving the Degree of Bachelor of Arts, and also the Bachelor of Laws Degree from Indiana University Law School. Mr. Beesley, I believe, has been with Eli Lilly and Company since the time of his graduation from college, first as a medical service representative for the Company and later in a variety of other positions in the marketing and industrial relations phases of the business. He was more recently appointed vice-president of Eli Lilly and Company and became executive vice-president on July 1, 1952, and he is, of course, also a member of their Board of Directors. Mr. Beesley is a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, *the Indiana State Pharmaceutical Association, and the American and Indiana State Bar Associations. He is also a member of the Executive Committee of the Board of Directors of Health Information Foundation.*

I am very happy to present to you, Mr. Eugene N. Beesley . . .

THE DRUG INDUSTRY, by Eugene N. Beesley,

EXECUTIVE VICE-PRESIDENT, ELI LILLY & CO.

IT SEEMS entirely fitting that on the occasion of the 100th anniversary of the founding of the AMERICAN PHARMACEUTICAL ASSOCIATION the various members of the healing arts should meet on common ground in the common interest of medical care with mutual and unrestrained respect, and I am indeed privileged to share this platform with such distinguished representatives of medicine and pharmacy as Dr. Irons and Mr. Robertson. I have always had a very high regard for the AMERICAN PHARMACEUTICAL ASSOCIATION and, if I were to indulge in the general accolade which this occasion demands, I could spend the entire period allotted to me in eulogy of the ASSOCIATION, its founders, and those who have borne it to its present enviable position.

We, as Americans, occupy a position which is envied by the other nations of the world. We are standing on the last bulwark of constitutional freedom. While the members of the healing arts in many other countries have been subsidized, dispossessed, and demoralized, we still enjoy the privileges of our American heritage and no one has yet succeeded in choking out of us our personal liberty. There have been those who sought to deprive us of our fundamental rights and to impair the services which we are qualified and ready to supply. Despite the widespread application of the principle of violence now so much in evidence, we have been able to maintain the freedom of individual initiative which has made our system of medical care far superior to any other system yet designed. The heart and core of medical care has remained free and, as a result, America leads the world in medical research and scientific development. We have more physicians, more pharmacists, more dentists, more nurses, and more hospital beds per capita than any nation in the world, no matter what its basic doctrines.

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As we observe this 100th anniversary of the founding of the AMERICAN PHARMACEUTICAL ASSOCIATION, it is stimulating and satisfying to reflect on the progress that has been made in therapeutics. The art of the apothecary is as old as the pyramids. For many centuries it was little more than a witch's brew. The hoof of the wild ox, the tooth of the swine, the heel of the greyhound, when properly brewed, were variously prescribed for headaches, baldness, and to purify the blood. The number of ingredients that went into the concoctions of the day was staggering. Polypharmacy was at its height. Out of this medicinal rag bag of the centuries has come the pharmacy of today. When we realize that the last 30 years have seen the advent of insulin, liver extracts, hormones, sulfa drugs, antibiotics, and the expanded knowledge of vitamins, we can only wonder what new "miracle" drugs pharmacists will be dispensing when the completion of the second century of the AMERICAN PHARMACEUTICAL ASSOCIATION is observed in 2052. Indeed this is an age of specifics—an age in which pharmacists not only contribute through proper dispensing but contribute by sharing in the research and development that precede the general availability of new and improved items. The progress which has been made is constantly improving the pharmacist's position as a key factor in the nation's health. As in other professions, with success there has come prestige and added responsibility. Today, keeping abreast of medical research, disseminating accurate information to the physician and the public, and providing complete prescription service are the dispensing pharmacist's full-time obligations. Pharmacy and pharmacists will continue to grow and achieve in proportion to their acceptance of these essential functions.

The health professions are working together more closely than ever before. Improvement and expansion of health facilities naturally follow, to the benefit of the patient. Serving the nation today are some 50 thousand retail pharmacies, each of which is prepared to compound and dispense any or all of a multitude of proved therapeutic agents which the physician may prescribe. All such pharmacists must remember that professional service is the one and only distinguishing feature which the drug store enjoys. It is the hub around which the entire profession—manufacturing, distributing, prescribing, and dispensing—revolves. Therefore, continuing improvement of professional service is the most clearly defined path to follow in planning future progress of pharmacy.

Unfortunately, there has been some evidence during the last several years of certain disagreements within the ranks of those that compose the various branches of the healing arts. Such disagreements, if allowed to persist, are not only unfortunate but are most unwise. Co-operation in the common cause is essentially necessary to the production of proper medical care. The basis of human disagreement is misunderstanding. Wherever misunderstanding is present, there are also present suspicion, distrust, and resentment—which often lead to illogical and unwise conclusions. No family, no business organization, no industry, no profession can afford to allow misunderstanding to develop among its members. Among the essential elements of medical care are research, manufacturing, distributing, prescribing, and dispensing of medicinal agents. Each is necessary for the existence of the others. None can endure without the functions of the others. The best interests of all will be served by a full measure of mutual respect and recognition. Co-operative effort in the common interest is the basis of all growth, whether it be in international affairs, in business, or in professional life. The day of "play it alone" is past. Therefore, on this centennial anniversary of the AMERICAN PHARMACEUTICAL ASSOCIATION may we, as representatives of the principal branches of the healing arts, pledge anew our continuing co-operation in solving our individual and joint problems. May we realize that free and open discussion of these problems, in an atmosphere of trust and confidence, is the best technique for reaching satisfactory solutions. Although I have not been specifically authorized to speak for all manufacturers, nonetheless I am confident the manufacturing segment of the healing arts will co-operate in applying such a technique. Medicine, pharmacy, and manufacturing all have rigid codes of ethics for their guidance, and I am confident that in the interpretation and application of these codes, no problem will arise which cannot be solved by this technique. With these codes to guide us, with a spirit of co-operation determined to solve our problems intelligently and harmoniously, and with inspired research contributed to by all branches of the healing arts, we can look forward confidently to continuing progress in medical care.

Ernest Little: *Thank you, Mr. Beesley, for your very interesting and challenging presentation. You have now heard a discussion of the thesis of the afternoon—inter- and intra-professional ethics—as envisioned by the medical profession and the drug industry. Next on the program will be a representative of the pharmaceutical profession. It is most fitting that the pharmaceutical profession be represented in this discussion by a practitioner who, very early in his career, decided that he wanted to practice pharmacy without being encumbered by the problems, or at least many of the problems, of the modern drug store. He concentrated on prescription practice. Since the earliest period of his career, he has found time to work closely with members of the medical profession, as well as give time to health and welfare activities in his community.*

Mr. Robertson is a past president of the American College of Apothecaries; he served on the Board of the State of Washington. For two years he has served as president of the Washington State Society for Crippled Children and Adults, and you can see by the program that he is also the chairman of our own Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION.

It is with special pleasure that I present to you Mr. R. V. Robertson . . .

THE PHARMACEUTICAL PROFESSION,

by R. V. Robertson,

CHAIRMAN, COMMITTEE ON PROFESSIONAL RELATIONS, AMERICAN PHARMACEUTICAL ASSOCIATION

EACH of us here today is keenly aware of the significance of the occasion, for it was just 100 years ago that the AMERICAN PHARMACEUTICAL ASSOCIATION was formally organized in Philadelphia. At the 50th Anniversary of the ASSOCIATION, a distinguished scholar of his time, John Uri Lloyd, in commenting on the 100th Birthday of the ASSOCIATION, had the following to say:

> *"The program of that occasion will be marked 'Centennial' and not 'Semi-Centennial,' and those who meet to celebrate the occasion will meet not to glorify themselves, but to honor all whom we need to honor, and I bid fair to hope, ourselves as well."*

Prophetic words, indeed, for those of us privileged to attend the Philadelphia meeting of August last. So, the dramatic fulfillment of his prediction. What then of the reputable pharmacists of the day of a century ago who felt the need for an organization such as the AMERICAN PHARMACEUTICAL ASSOCIATION? Could it have been that they felt the need for intra-professional relations? Let us examine the objectives of this infant organization. As stated in the Constitution, the objectives were to "unite the educated and reputable pharmacists of America in an effort to improve and regulate the drug market by preventing the importation of inferior, adulterated, or deteriorated drugs, and by detecting and exposing home adulterations; to encourage proper relations with the other health professions; to improve pharmaceutical science by diffusing scientific knowledge, fostering pharmaceutical literature, developing talent, stimulating discovery and invention, and encouraging domestic production and manufacture of drugs and medicines; to regulate education and training of pharmacists; to suppress empiricism and to restrict the dispensing and distribution of medicines to qualified pharmacists; to uphold standards of authority in the education, theory, and practice of pharmacy with a view to the highest good and the greatest protection to the public."

It is quite evident after reading these objectives, that one of the strongest motivating forces in the formation of the ASSOCIATION was the matter of quality of drugs, and the desire of the pharmacists and physicians to establish standards that would safeguard the public health. This vexing problem was later permanently solved and became the law of the land. The remainder of the objectives were, in the main, of an altruistic nature, and allude primarily to human relations.

Let us pause briefly and visualize, if we can, the physical equipment—from the type of lighting, to the prescription balances then in vogue, the tools of the profession and the drugs dispensed being mainly prepared from the crude drugs of the time—thus, of necessity, making each pharmacist and his apprentice, in a small way, their own manufacturers.

Pharmacist's Primary Object

The primary object of the pharmacist of 1852, as it is today, was the service he could render in safeguarding the handling, sale, compounding, and dispensing of medicinal substances. Throughout the history of mankind, there has been no single 100-year period to compare with the dramatic strides of science and technology, and the resultant vast changes in the manners and modes of living of the peoples of the world, as during the past century. Pharmacy has indeed more than kept abreast of these physical advancements, but the practitioners of pharmacy, as has all the body politic, found the frailties of man much in evidence. There has been no such startling progress in sociologic and human relations as has characterized science and technology. Rather, it seems to be a condition of static, that at times appears all too permanent.

In approaching this problem of inter- and intra-professional relations of the various professions in the field of medical care, we must be realistic. In each of the segments, whether it be pharmacy, medicine, dentistry, or nursing, there is to be found a code of ethics. These various codes of ethics are designed to approach the ideal, but as commented upon previously, the frailty of man precludes the accomplishment, and therefore, these various codes are really yardsticks, against which the best efforts of each group are measured. Were these codes of ethics to be strictly observed, many of the problems in the fields of professional relationships would be resolved.

Translating then the responsibility of the professions in the field of medical care into dollars, we find them to be the custodians of an eight and a half billion dollar business in 1952. Of this sum, the physicians received roughly two and a half billion, and a billion and a half went to pharmacy for drugs and sundries.

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In other words, out of every dollar spent for medical care, 28¢ went to the physician, while the pharmacist received 17¢. Does it not then seem reasonable to believe that these two segments of the health professions have a very real and mutual interest?

Benefit to the Public

What then has the public received for its investment in health? That too has its dramatic side. Since the turn of the century, more than 20 years have been added to life expectancy at birth. The general death rate, the infant and maternal mortality rate, and the death rates for tuberculosis, pneumonia, and many other specific diseases have been cut drastically, some to an almost irreducible minimum. The general level of nutrition and health has been raised steadily year after year, and we have witnessed an ever accelerated phase in scientific advancement, as well as medical, economic and social progress.

Surely then, if pharmacy and medicine find themselves furnishing the services for nearly one half the cost of the nation's medical care program, no reasonable argument could be advanced against the operation on national and local levels of inter-professional councils. Were such councils presently in operation, the very pressing problem of physician- or clinic-owned pharmacies would surely lend itself to some solution.

As a matter of fact, when we find that the State of California presents the picture of 10 per cent of its professional pharmacies being clinic or doctor owned, some method of solving this dilemma must be found.

Were this trend to continue, it would not be many years until we had reverted back to the time a century ago when physicians owned many of the pharmacies. The areas of mutual problems and interest are so manifest and numerous that the simple act of meeting together would be of incalculable value to both groups, as well as to the public. Since the turn of the century, and particularly after World Wars I and II, medical care has been highly specialized as regards the medical practitioner and his numerous fields of specialization. The growth of the number of hospital beds available has been little less than phenomenal, and many of the highly specialized segments of medicine are now an integral part of hospital operation.

Apace with this growth has been that of the hospital pharmacy, which has in many instances become an acute problem to the pharmacists of a community, as regards the hospital out-patient service.

Would not an inter-professional relations council in this instance serve a useful purpose?

The Manufacturer

Undoubtedly the most dramatic growth in any of the components of medical care has been that of the pharmaceutical manufacturer. They have not only changed to a large extent the procedures of the practice of pharmacy, but in so doing, have furnished a great share of the facilities for medical research.

As a result of the assumption by the pharmaceutical houses of many of the prerogatives which were once solely that of the pharmacist, we find many areas of disagreement developing between the practicing pharmacist and the manufacturer—not the least of which is product duplication and the constant torrent of new specialties being called to the attention of the medical profession.

Who, then, could reasonably suggest that an inter-professional relations council would not be able to resolve some of the more troublesome of these problems?

Dentistry is a profession of great importance in the total health picture, and incidentally, has problems of mutual interest. Since the advent of vitamins and chemotherapy, we find many overlapping areas in therapy, and some considerable differences of opinion between the medical practitioner and dentist. In other words, the problem needs clarification and definition, a work that lends itself to the deliberations of an inter-professional council.

So it is with nursing, veterinary medicine, and any and all professional groups whose efforts are given to servicing the needs of the public's health. Each group, of course, has its own code of ethics and, if followed, as stated previously, would eliminate many of the areas of disagreement.

But here again the frailty of man.

The last quarter of a century has changed greatly our modes of living, and not the least of these basic forces responsible for the changes, is the ever widening scope of political influence, leaving as it does a backwash of defense mechanism, evidenced by every segment of business in its relation with the public, whether of a merchandising or professional character.

The subject of medical care has been and will continue to be one of the great political whipping-boys, and to some degree, understandably so—for catastrophic illness is also an economic catastrophe to nearly everyone. Here again the resources of combined effort would seem a logical first step in a frontal assault on this very real and pressing problem.

There has never been any question of the need of groups having mutual interests associating themselves into organizations to the end that public interests will thus be better served. Though these movements are always slow to develop, it is axiomatic that if founded on right principles, they will over a long period of time, claim to membership an ever widening number of people. The growth of the AMERICAN PHARMACEUTICAL ASSOCIATION bears witness to that fact.

What then of pharmacy on the question of intra- and inter-professional relations? They are, indeed, largely a matter of ethics. Ethics, in turn, are standards of personal behavior which pertain to the individual, to a group, or a number of groups. It could be hoped that, measured by this yardstick, pharmacy would be on the average with others, and through the efforts of organizations such as this, rather slow but definite progress is being made to raise these standards of personal and group behavior.

Assuming then that pharmacy subscribes to the theory of intra-group ethics, the next logical step would be that of widening the areas of endeavor by each segment of the professions in the health field, and in joining hands to achieve goals that would be mutually beneficial to them and to the public.

1952
NATIONAL PHARMACY WEEK
WINNERS

Baltimore Pharmacy Wins First Prize in National Competition

Read Drug and Chemical Co. store at Howard and Lexington Street, Baltimore, won $300 First Prize.

The Read Drug and Chemical Company, Baltimore 30, Md., won first prize of $300 in the National Pharmacy Week window display competition according to the announcement made by the judges, all members of the A. PH. A. Committee on Public Relations. The winning display was planned by H. Nelson Warfield, director of Read's prescription departments. It was prepared and installed with the cooperation of Joseph Rocker, director of display, and pharmacists William Gildea and Albert Harding. Drugs of the past, present and the future served as the theme of the window, which also paid tribute to the Centennial of the A.PH.A.

Second prize was won by Morris L. Cooper of the Cooper Drug Store, 700 W. North Ave., Baltimore 17, Md. Cooper won the $200 prize for a window listing some of the many medical discoveries of the past century. Last year Cooper received an honorable mention award for his entry, and in 1948, he captured first prize in the nationwide contest.

Another eastern pharmacy, Johnson's, 580 Alter St., Hazleton, Pa., was awarded the third prize of $100 for a window which also highlighted the many advances in medicine in recent years. The window was installed by pharmacist Roy E. Johnson, who is co-owner of the store with C. Roy Johnson.

Temple Wins College Prize

Members of the Senior Class of the College of Pharmacy, Temple University, Philadelphia,

(Continued on next page)

From Preceding Page

Pa., won the first prize, a plaque, for the best display submitted by a college of pharmacy. First Honorable Mention in this important classification went to the Junior Class of the College of Pharmacy, State University of Iowa, Iowa City, Iowa. These two prize winning displays are shown on the front cover of THIS ISSUE. For the complete list of winners see page 98.

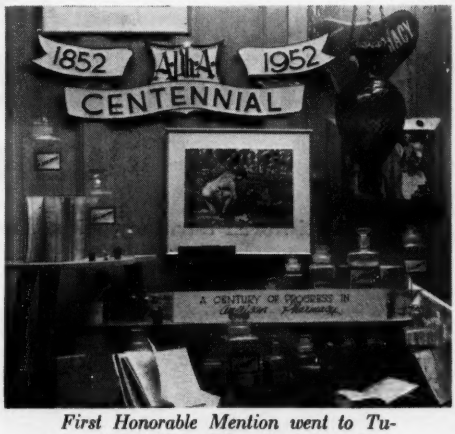
Observance Widespread

Observance of National Pharmacy Week was widespread, with newspapers, radio and television stations cooperating. Special material prepared by the headquarters staff of the AMERICAN PHARMACEUTICAL ASSOCIATION was mailed to all state and city pharmaceutical associations, colleges, and others interested in publicizing National Pharmacy Week. Much of this material served as the basis for radio interviews and editorials in the newspapers, as well as for addresses before civic and church groups. In addition to this material, "spot radio announcements" were sent to a carefully selected list of 126 radio stations throughout the country. Practically all of the material distributed was written especially for the 1952 observance, since it focused attention on the Centennial of the ASSOCIATION.

Pharmacy Week Needs Advance Planning

National Pharmacy Week, 1953, will be observed from October 4 to October 10. The theme will be, "Your Pharmacist Works for Better Community Health." A special meeting of the sponsors of the Week, the Public Relations Committee of the A.PH.A., was held early in February, and details of the observance will soon be mailed to all state and municipal pharmaceutical association secretaries.

The headquarters of the AMERICAN PHARMACEUTICAL ASSOCIATION prepares and distributes the tools by which pharmacists may participate, but the most effective activity must stem from the pharmacists themselves. Therefore, pharmacists everywhere are urged to begin planning now for the observance in October, 1953. One way that planning can begin is through the immediate appointment of local committees to establish the state- and city-wide programs. In subsequent issues of THIS JOURNAL more information will be published, all designed to arm the pharmacists with sufficient information to make 1953 National Pharmacy Week a major contribution to bettering public relations for the profession.



First Honorable Mention went to Tulane Drug, New Orleans, window showing large A.Ph.A. Centennial Seal.

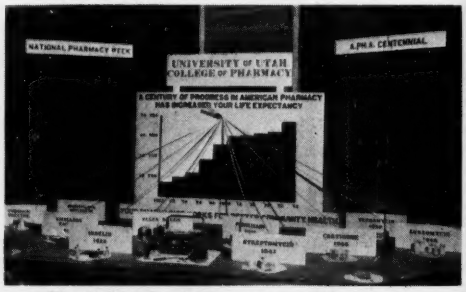
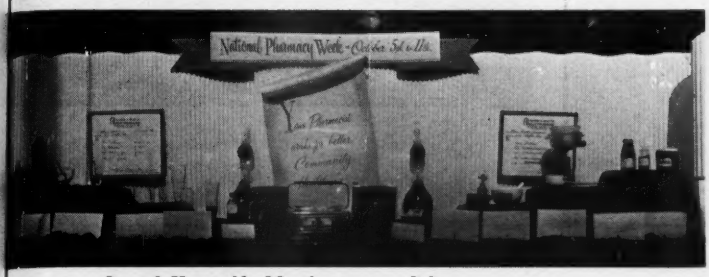


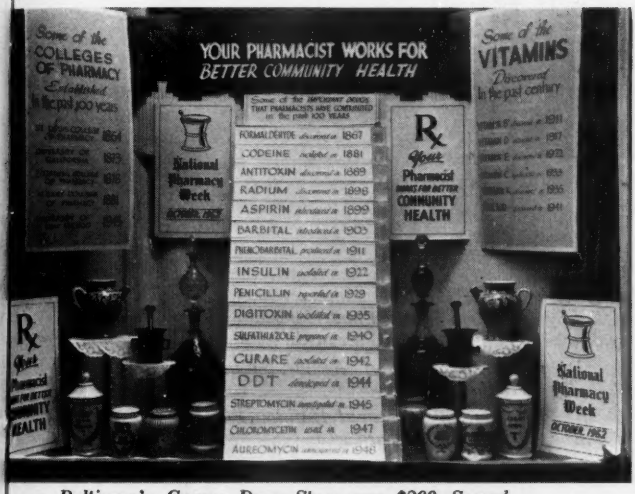
Chart showing increase in life expectancy won Third Honorable Mention in College Division for Utah students.

Springfield, Ohio, City Hospital won Special Commendation for window honoring the entire health team.

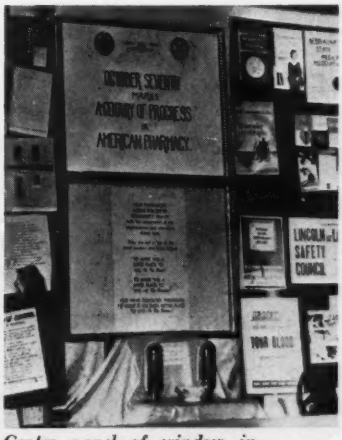


Second Honorable Mention among Colleges went to Duquesne University for this window in Pittsburgh's Mellon Bank.

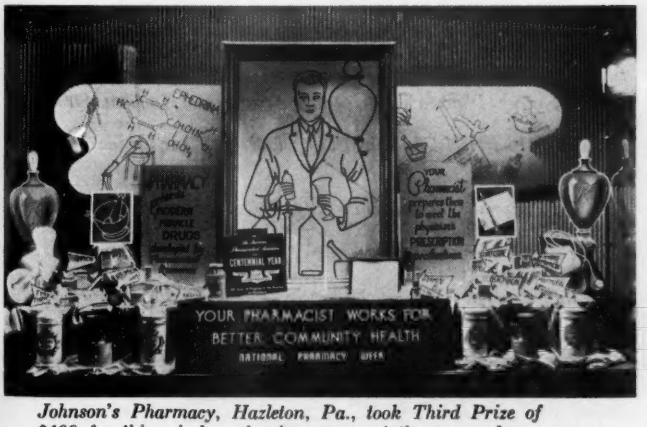
Public Health Class, College of Pharmacy, Xavier University, New Orleans, La., won Fourth Honorable Mention, in the College Division.



Baltimore's Cooper Drug Store won $200 Second Prize. Window charted pharmaceutical discoveries.



Center panel of window in Ruppert's Pharmacy, Lincoln, Neb., was a display featuring health messages. It won Fourth Honorable Mention.



Johnson's Pharmacy, Hazleton, Pa., took Third Prize of $100 for this window showing many of the newer drugs.

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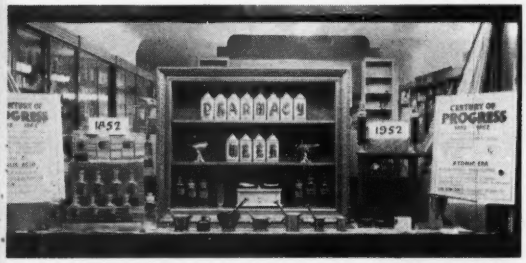
Salvatore's Drug Store, Trenton, used jars in novel fashion for third honorable mention.

Service pharmacy Washington, D. C., took second honorable mention with this historical window.



Ancient and modern equipment won fifth honorable mention for Kehr's Pharmacy, Trenton, N. J.

National Pharmacy Week Window Display Winners

First Prize, $300	*Read Drug & Chemical Company, Baltimore 30, Md.* *Installed by H. Nelson Warfield and planned by Joseph Rocker, display director, and pharmacists William Gildea and Albert Harding*
Second Prize, $200	*Cooper Drug Store, 700 West North Avenue, Baltimore 17, Md.* *Installed by M. L. Cooper, pharmacist*
Third Prize, $100	*Johnson's Pharmacy, 580 Alter Street, Hazleton, Pa.* *Installed by Roy E. Johnson, pharmacist*
Honorable Mention:	
First	*Tulane Drug Center, 2000 Tulane Avenue, New Orleans, La.* *Installed by Ben Bavly, pharmacist, and Fred Cunningham, display manager*
Second	*Service Pharmacy, 826 17th St., N.W., Washington, D. C.* *Installed by Morris G. Goldstein, pharmacist, and Charles Weaver*
Third	*Salvatore's Drug Store, 201 Hamilton Avenue, Trenton, N. J.* *Installed by Pharmacists Reynold Salvatore and Thomas Salvatore*
Fourth	*Ruppert's Pharmacy, 13th and N Streets, Lincoln, Neb.* *Installed by Pharmacist George P. Hauschild*
Fifth	*Kehr's Korner Pharmacy, Princeton Avenue and Ingham Street, Trenton, N. J.* *Installed by Pharmacist Anthony F. Capriotti and Roger Lamachia*
COLLEGE COMPETITION	
First Prize, a Plaque	*School of Pharmacy, Temple University, Philadelphia, Pa.* *Installed by senior class*
First Honorable Mention	*College of Pharmacy, State University of Iowa, Iowa City, Iowa* *Installed by Junior Class*
Second Honorable Mention	*School of Pharmacy, Duquesne University, Pittsburgh, Pa.* *Installed by Student Branch of the A.Ph.A.*
Third Honorable Mention	*College of Pharmacy, University of Utah, Salt Lake City, Utah* *Installed by Student Branch of the A.Ph.A.*
Fourth Honorable Mention	*College of Pharmacy, Xavier University, New Orleans, La.* *Installed by Public Health Class*
COMMENDATION	*Springfield City Hospital, Springfield, Ohio* *Installed by C. N. Johnson, assistant pharmacist*

A NEW FRONTIER FOR MEDICAL RESEARCH

virus

PART I: "It's a virus" has become a common expression in our language. The large number of virus illnesses might lead us to believe that little is being done in this area. Mr. Pennington, in this two part article,* brings us up to date on progress in research leading toward eventual eradication of many common virus diseases. Part II will appear next month.

By Wayne Pennington

IT HAS become fashionable, in the past few years, to blame any stubborn or obscure infection on an "unknown virus." Nothing can be done about a virus, the proud victim will tell you! Viruses are too small to see with the more usual types of microscopes and most frequently they laugh at the wonder drugs!

Fortunately, medical science is not so resigned. Not long ago, doctors were just as helpless in fighting bacteria. Together, the sulfas and the antibiotics have conquered a majority of the bacterial infections of man. Viral infections, however, remain unsolved. The result shows up in mortality statistics. Children saved from pneumonia, scarlet fever and mastoid, or other infections, succumb to the dread virus of polio. Immunity—natural or acquired—is the only weapon against the troublesome viruses of measles and chickenpox. The common cold—whether virus or allergy—defies attack. The virus, then, is the medical frontier.

Detective work on the virus is taking a large part of the millions of dollars being spent on research. Lederle Laboratories' new virus research and production building, for example, is one of the recent developments in man's battle against the "unknown virus." Virus research has progressed markedly since the war, but with facilities now available in the new plant, it is expected that even greater progress will be made. Since the war, the research has already led to the development of a new hog cholera vaccine, a vaccine which protects poultry against Newcastle disease, and greatly improved vaccines for protecting dogs against rabies, and distemper.

These animal products are the bread and butter of our attack on the viruses that affect man. Vaccines which save food animals have a readily calculated dollars-and-cents value to farmers and eventually to housewives. From a purely market point of view, there are more animals than men—and every year brings a new generation of animals requiring protection.

The light that the work with animal diseases is shedding on the behavior of the viruses which afflict the human race is of great scientific importance. Experimental work can obviously go forward faster and more freely with animals. Tumors in chickens, to take one of our virus research projects, is worth cracking because it costs poultry men millions of dollars a year. As an extra dividend, we're hoping to learn more about the action of viruses on tumorous growths in general, including human cancer. We believe that the next big development in our profession may be in the virus field.

The Immediate Future

Just what the next breakthroughs will be, sober scientists hate to predict. The common cold,

(Continued on next page)

* A condensation of the text, "Lederle Reports on The Virus," October 9, 1952.

Virus

• • • • • • • • • *from preceding page*

biggest virus problem, is farthest from solution: scientists aren't agreed that viruses are solely responsible for colds; they haven't been able to identify the many viruses involved; since only men and apes catch cold, they can't even study the disease conveniently; and since one cold doesn't immunize you (for very long) against another, vaccination doesn't seem promising. Only hope—and it's now remote—would be an agent which kills viruses in the same way antibiotics or sulfa drugs kill bacteria. Similar difficulties block attack on the shifting little-known viruses which lay people low every winter. Only 10 per cent of them have been identified. The newer antibiotics, such as aureomycin, do stop the growth of several large viruses, as well as organisms that produce "diseases of unknown cause." These latter organisms are so mysterious they cannot even be seen or cultured. One such disease is so-called "virus pneumonia," or "atypical pneumonia" as the doctors have named it.

Outstanding virus problems closer to solution are a vaccine against foot and mouth disease, currently being studied by the Department of Agriculture; a live virus vaccine against polio, currently engaging the attention of researchers at Yale, at Johns Hopkins, and at Lederle, among other places; and development of a virus which will safely shrink and help conquer human cancer, a long and difficult assignment on which the Sloan-Kettering Institute for Cancer Research is working.

The Elusive Virus

A virus may be defined as a disease-producing microbe smaller than ordinary bacteria which can't reproduce outside of the right kind of living cell.

When Pasteur was developing his germ theory of disease, he labelled any disease-producing micro-organism a "virus." If he couldn't see the criminal germ in his microscope, he simply called it an "ultra virus." Bacteriology advanced through the microscope. With its aid, bacteriologists discovered thousands of germs which didn't cause disease. Those which acted like plants were called bacteria. Those which acted like animals were called protozoa. Those which couldn't be seen at all were suspected only by their ability to cause disease and continued to be known as viruses.

For a long time, in fact, a virus was something like the X in an algebraic equation. In 1892, a Russian botanist infected a healthy plant with tobacco mosaic virus by passing ground material from a plant affected with the disease through a filter which caught all forms of life visible through the microscope. Something must have caused the disease, and that something was, by Pasteur's definition, a virus. It was now termed "ultra filterable" if it passed a Berkefeld filter. Even now that we've identified 200 or more different viruses, we only know them by the diseases they cause in plants, animals, or man. There are some small viruses which don't cause disease, and we may never detect them.

Roadblock Number One to the study of viruses is the difficulty of identifying them. Most viruses are smaller than the wave length of light to which the human eye is sensitive, which means that there is no hope of ever resolving them through the lens of a direct-vision microscope. The head of a pin, for instance, is big enough to hold 25 million of the viruses which cause polio.

Virologists were much happier, in 1938, when the invention of the electron microscope made it possible for them indirectly to "see" the magnified shadow produced when a virus deflects a bombardment of electrons. At least they knew that these invisible agents were definite, organized, limited organisms. The advance didn't help them identify unknown viruses, however. You can look through a direct-vision microscope at a whole field of microbes and see which ones are there. You have to catch the individual object you want to magnify before you can put it under an electron microscope. Viruses are hard to catch because they grow inside cells.

At first, virologists had to inject a suspected virus into an animal and wait to see whether the animal got the specific disease caused by such a virus. Now they have developed several elaborate methods of testing for the presence of a particular virus by measuring the antibodies a living animal manufactures to combat it. Simpler tests are being devised, but all are more expensive and more time consuming than a look into a microscope.

All members of the virus family of microbes aren't beyond the microscope, however. The vaccinia virus which gives you your smallpox vaccination scar is just big enough to be resolved by a microscope lens. Some of the most important historically—the microbes which cause typhus, Rocky Mountain spotted fever, and diseases carried by ticks, fleas, lice or mites—can be caught in bacterial filters and hence can be seen in the microscope. These bigger viruses are called rickettsiae after Dr. Howard Taylor

Ricketts, who caught typhus from a louse he was studying and died in 1910 from the disease problem he helped to solve.

Rickettsiae

Rickettsiae belong with viruses, because both are microbe parasites. Unlike bacteria, neither can reproduce themselves unless they get the right kind of living cell to eat, digest, and even breathe for them. Once attached to a host, a virus appropriates the cell's materials and sallies forth in greater numbers to attack the neighboring cells. A virus is very fussy about the kind of cell it needs. If the proper cell isn't around, it doesn't necessarily die for lack of nourishment. It just holes up and waits until the right kind of cell comes along.

This very intimate relationship between virus and host makes the virus harder to study than bacteria in two additional ways: Roadblock Number Two, the difficulty of growing a virus in the laboratory; and Roadblock Number Three, the difficulty of giving a virus disease to a convenient laboratory animal.

Bacteria grow promiscuously on agar plates or in nutrient broths. To grow a virus, you have to find the host that particular virus likes and keep the host growing. To get a virus into a test tube, virologists at first grew living hosts by "tissue culture," the method pathologists use to keep an organ alive after it is taken from the body. Most striking illustration of the principle is the chicken heart Dr. Alexis Carrel kept beating in a chemical solution for years after it was taken from the chicken. At best, tissue culture is delicate, and great care must be taken to keep out bacteria. Lately antibiotics, which kill bacteria and some viruses (inside individual cells) have helped virologists to keep their tissue cultures clean.

In the last 20 years, virologists have been able to make a large number of viruses grow in developing chick embryos. A fertile egg is an ideal living test tube with its own nutrient material. After the egg shell is drilled, the virus is injected with a hypodermic needle and the tiny hole is sealed so that no bacteria can get inside to confuse the issue. The virus feeds on the embryo's cells, multiplies rapidly, and can be easily harvested. The method is so convenient that a virologist's first thought in attacking a new virus is to get it to grow in eggs.

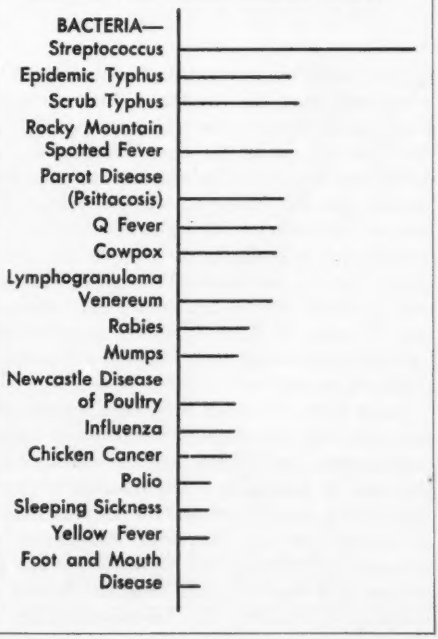
Progress is necessarily much slower on viruses which are "species specific"—or so fussy that they will grow only in the cells of one species of animal. Particularly frustrating are those which insist on human cells for hosts. Polio, measles, German measles, chicken pox, and the common cold are unsolved largely because they can't be given to any animal less complicated than a chimpanzee.

These human-loving viruses can, of course, be grown in human tissue culture, but it's hard to test a serum or a vaccine developed to combat them without a laboratory animal which will contract the disease. Experimental work is limited to the few tests which can be safely made on human volunteers and on the inconclusive statistical study of epidemics. Chimpanzees are helpful, of course, but the big monkeys don't meet the requirements for an ideal laboratory animal. They are neither easily standardized, cheap, nor fast growing.

Although many weapons against the virus have been forged, scientists still aren't sure what a virus really is. Their knowledge is strictly on the order of the reports of the three blind men on the elephant. In some ways, a virus acts like a big protein molecule. Smaller viruses which have been isolated from their cells refract light like crystals, yet retain their power to reproduce when exposed to susceptible cells again. Finally, viruses change as they reproduce in ways which suggest the mutation of genes, the mechanism in every living cell which determines what characteristics will be passed on to the next generation.

(To be concluded next month)

TABLE I The Principal Viruses and Rickettsia and Their Relative Sizes



1953 A.PH.A. CONVENTION

to be held at Salt Lake City

Forthcoming meeting, to be held week of August 16–21, marks first A.PH.A. visit to area between Denver and Pacific Coast. Reservations to be made through housing bureau as usual. Forms will be mailed to members shortly. Outstanding professional and entertainment program.

SALT Lake City, Utah, will be the site of the 1953 convention of the AMERICAN PHARMACEUTICAL ASSOCIATION. As the map shows, this will be the first time in its 101 year history that the Association has met in the wide territory between Denver and the Pacific Coast. As such, it focuses attention on the many pharmaceutical gains made in this area during the past decade. The Hotel Utah in the heart of the great Mormon capital will be the headquarters hotel. In subsequent issues of THIS JOURNAL, complete information concerning hotel facilities and reservations will be published.

As usual the AMERICAN PHARAMACEUTICAL ASSOCIATION will meet with its affiliated and related organizations, and the meetings are scheduled for the week of August 16. The schedule of meetings is being worked out, and for the year 1953 it is planned for the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, the American Society of Hospital Pharmacists, the American College of Apothecaries, and the National Conference of State Pharmaceutical Association Secretaries to meet in the early days of the week, with the convention of the A.PH.A. opening on Tuesday evening, August 18, and continuing until Friday evening, August 21, or Saturday morning, August 22.

An Historic Area

Famed explorer and general, John Charles Fremont, was the first government representative to penetrate Utah, but before him, Indian scouts and trappers had crisscrossed its many mountains reporting huge herds of game. Fremont arrived in 1843, and, in 1847, Brigham Young and his Mormon followers arrived to begin active settlement of the area. From that time on, Utah grew, and Salt Lake City became the hub of the entire territory. Historic monuments of these early days dot the State, and enhance the interest for the traveler and convention participant.

As Salt Lake City developed into the focal point of activity within the State, so too is it the

focal point of the many scenic beauties that Utah provides. It is impossible to reach it without passing through some colorful area, whether the entrance be from north, south, east or west. Rarely has a convention of the ASSOCIATION been held in an area so promising for relaxation and sheer scenic enjoyment. Convention attendants can so plan their trip as to come one way, and return another, thus affording themselves an opportunity to see many of the scenic wonders in Utah and surrounding states.

The Great Salt Lake, the saltiest body of water in the United States and the second saltiest in the world, is fifteen miles to the west of the City. The famed Mormon Temple, which attracts more than a million tourists a year, is in the heart of the City, a few short blocks from the headquarters hotel. The spired Temple took forty years to build, and the Tabernacle alone seats eight thousand. Utah's State Capitol Building is also in the heart of the City, and houses an exhibit of the State's mining, agricultural and manufacturing products.

An Outstanding Program

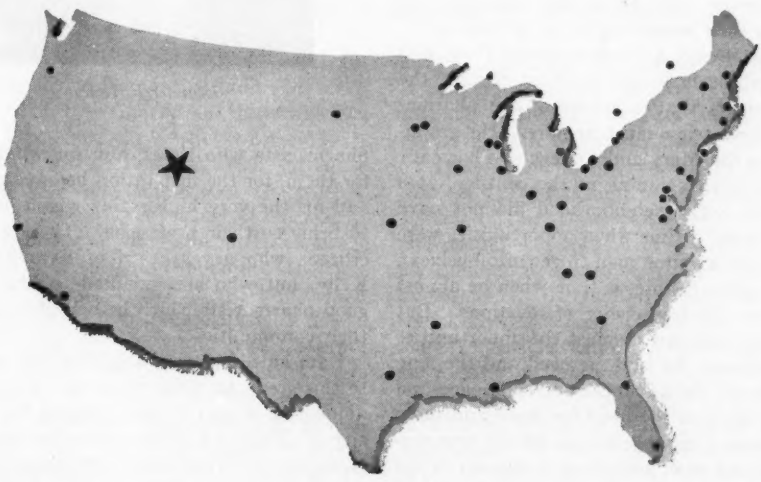
Secretaries of the Sections of the AMERICAN PHARMACEUTICAL ASSOCIATION are already receiving advance notices of papers to be read, and from early reports, the convention program will be marked by a series of important contributions in all areas of pharmaceutical interest. The programs for the General Sessions will, of course, match those of previous years in stature of speakers and importance of the messages. It is too early, however, to announce the program, since tentative plans are just now getting under way. This information will also be carried in subsequent issues of THIS JOURNAL.

Plan Now to Attend

Room reservations will, as usual, be made through the local housing bureau which is attached to the Salt Lake City Chamber of Commerce and Convention Bureau. Hotels will not accept reservations for the convention directly, and each member of the ASSOCIATION and others interested will receive the customary room reservation form on which to make application for desired accommodations.

There are a number of first class hotels in Salt Lake City close to the headquarters hotel, so that all who wish to attend the convention can be readily accommodated.

Practicing pharmacists, educators, and all those interested in the progress of pharmacy should start planning now to be in Salt Lake City the week of August 16 to mark the beginning of the 101st year of the AMERICAN PHARMACEUTICAL ASSOCIATION.



1953 meeting in Salt Lake City will mark first A.PH.A. convention west of the Mississippi since 1948; first meeting in history between Denver and the coast.

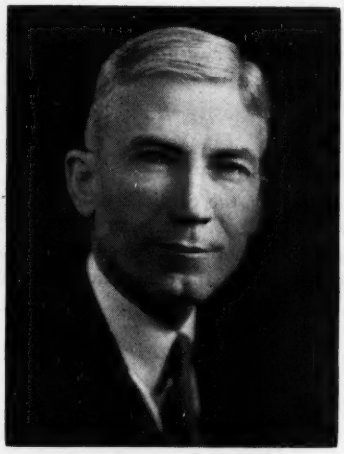
Memorial Building Dedicated as Tribute to

Evander Frank Kelly

for Outstanding Contributions to Pharmacy

Address of Maryland Governor, the Hon. Theodore R. McKeldin, epitomizes spirit of ceremony held January 16, 1953, in Baltimore.

Gov. McKeldin's Address: Ranking high in importance and usefulness among the members of any community is its pharmacist. He is the partner of the physician in administering to human ills; he is the partner of the dentist in the alleviation of pain and distress; he is the friend of the neighborhood, often the provider of first aid and frequently the saver of lives. Through the years, as new drugs have been discovered for human ills, and as new uses have been found for older drugs and chemicals, pharmacy has become more and more of an exact profession. Its members have found that constant learning and advancement were necessary not only in their progress, but indeed to their remaining in the profession.

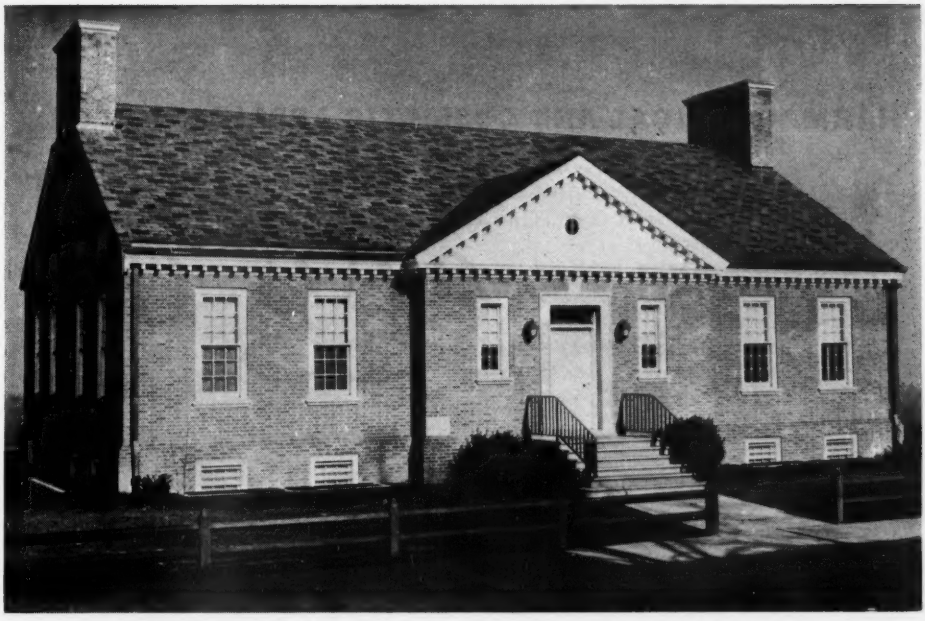


Evander F. Kelly

Evander Frank Kelly was among those who recognized, early in this century of ours, the advancements that members of the pharmaceutical profession must acquire. He graduated from the Maryland College of Pharmacy almost at the beginning of the century, at a time when every neighborhood did not have its drug store, a time when opportunities were excellent for a young man to get into business, to open a drug store, a time when he almost could have his free choice of locations. But this young man saw not just the opportunities of the moment, he saw the need and the long years ahead, the advancement of science and of medicine, and the need for more and more highly trained capable men to fill the prescriptions old and new, and chose to remain at the Maryland College of Pharmacy, now part of our great State University, as a teacher of others, as a scientist, and as a researcher.

There are in many parts of our nation today pharmacists who thank him for what he did for them, for the inspiration he gave to them, and for the very high rating which he helped to bring to their profession. There are other citizens who never heard of Evander Frank Kelly, but who are indebted to him for the good pharmacists which he helped to train for their communities.

I am indeed pleased that this fine memorial to this great, unselfish man, who lived so long among us, is part of the group of the University of Maryland buildings in Baltimore. As Governor of Maryland, I am happy to greet all of you on this occasion and I am proud to have a small part in the ceremonies at which this fine and well deserved memorial is to be presented, accepted and dedicated.



Situated on the Baltimore city campus of the University of Maryland, the main entrance of the Kelly Memorial Building, 605 W. Lombard Street, opens into the Memorial Room, twenty by twenty-two feet, floored and wainscoted with travertine stone. The room is flanked on both sides by two rooms of the same dimensions, one to serve as a library, the other as a conference room. At the rear of the first floor are offices, and in the basement is a well-lighted meeting room to accommodate 200 people.

Dedication Ceremonies Attended by More Than 300

More than 300 leaders in pharmacy and allied professions, including the members of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION and K. L. Kelly, son of the late Dean, attended the dedicatory ceremony. Dr. Noel E. Foss, Dean of the School of Pharmacy, University of Maryland, presided at the hour-long program honoring the late secretary of the A. PH. A., and former Dean of the Maryland University School of Pharmacy. In addition to Governor McKeldin, addresses of welcome were brought by Manuel B. Wagner, president, Maryland Pharmaceutical Association, and Dr. Huntington Williams, Commissioner of Public Health of the City of Baltimore. Dr. B. Olive Cole, secretary of the Faculty, School of Pharmacy, University of Maryland; Dr. Robert P. Fischelis, secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION; and Dr. Robert L. Swain, editor of *Drug Topics*, and past president, Maryland Pharmaceutical Association, delivered the three addresses commemorating Dr. Kelly. Presentation of the Building to the University was made by Dr. H. A. B. Dunning, chairman of the Kelly Memorial Committee, and more responsible than any other individual for the planning and completion of this project. In accepting the gift, Dr. H. C. Byrd, president of the University, paid tribute to Dr. Kelly's intense interest in furthering not only the development of the School of Pharmacy, but the entire University as well.

PHARMACEUTICAL AND COSMETIC APPLICATION OF egg oil

By F. J. Bandelin
and J. V. Tuschhoff

From antiquity to the present, egg oil has been used as an emulsifying agent. Here the authors report a new process which minimizes the important problem of spoilage.

THE USE OF egg as an emulsifying agent is so old that its first use is lost in antiquity. Being a natural material, readily available, and of rather constant composition, its long history as a pharmaceutical emulsifying agent is not surprising. Both whole egg and egg yolk have been used and both have remarkable efficiency in forming and stabilizing emulsions. Both have been used as emulsifying agents in preparations formerly official in the National Formulary. Hen's Egg (Ovum Gallinaceum) was described in the N. F. VII as the recently laid egg of the Gallus domesticus (Fam. Phasianidae) and was used as an emulsifying agent in the preparation of Linimentum Terebinthinae Aceticum. Egg yolk was official, in the same edition, under the Latin title of Ovi Vitellus Recens and was described as the freshly separated yolk of the recently laid egg of the hen, Gallus domesticus (Fam. Phasianidae) and was the emulsifying agent in Cod Liver Oil Emulsion which was official under the Latin title, Emulsum Olei Morrhuae cum Ovo. Glycerite of egg yolk was also official in the N. F. under the Latin title Glyceritum Ovi Vitelli.

The advent of newer emulsifying agents and the obvious difficulties arising from the uncertain keeping properties of egg emulsions caused them to fall into disuse, and they were eventually dropped from the N. F.

Recently, through a new process, involving both solvent extraction and dehydration, an egg oil has been isolated which embodies, in concentrated form, all of the emulsifying properties of egg yolk without the hazards of spoilage. This process, known as the Vio Bin process*(1, 2) has been developed and used for the simultaneous defatting and dehydration of biological tissues. Biological material, such as animal tissues or eggs, are macerated and placed in an excess of ethylene dichloride. The ethylene dichloride and water are distilled off as a constant boiling mixture known as an azeotrope. When all of the water has been removed, the anhydrous biological material remains in the still in ethylene dichloride. During the process, the solvent action of the ethylene dichloride dissolves all of the fatty or solvent-soluble material. The ethylene dichloride is filtered off leaving the dehydrated tissue from which all traces of the ethylene dichloride are removed. The ethylene dichloride is then evaporated from the filtrate, leaving the fat or oil. It is the egg oil obtained from this process which we have utilized.

The resulting egg oil is an amber to brown

Egg Oil used in this study was kindly supplied by the Vio Bin Corporation of Monticello, Ill. The authors wish to acknowledge the help and suggestions given during this study by Ezra Levin and Vernon Collins of the Vio Bin Corporation.

From the Research Laboratories of Flint, Eaton and Company, Decatur, Ill.

liquid having a characteristic odor and taste. It consists of the lipids of the yolk which according to Romanoff and Romanoff (3) has the following approximate composition:

True Fats (Glycerides)	62.3%
Phospholipids	32.8%
Sterols	4.9%
Cerebrosides	trace

Egg oil is soluble in mineral oil and in vegetable oils forming a clear solution. It is soluble in most of the common organic solvents. It has a density of 0.95 and a refractive index of 1.4790. It is insoluble in water but disperses readily when shaken with it to form emulsions.

Since egg oil exhibits marked emulsifying properties with a propensity for forming water-in-oil emulsions, investigations were carried out to determine its incorporation into suitable ointment bases for utilization as an ointment vehicle with water absorbing properties. Of the bases prepared, the following were found highly acceptable:

Anhydrous Egg Oil Base

Egg Oil	10 grams
White Wax	5 grams
White Petrolatum	85 grams

This base is smooth and firm but not sticky or tacky and exerts no pull or friction on application. When applied to the skin, it has excellent spreading properties and marked emollient and lubricating characteristics.

To determine the water-holding capacity and stability of the hydrated base, increasing amounts of water were incorporated and the properties of the resulting emulsified mixtures are noted in Table I.

TABLE I.—THE WATER ABSORPTIVE PROPERTY OF EGG OIL BASE

	Ml. of Water per No. 100 Grams of Anhydrous Base	Character of resulting emulsion
1	10	Smooth, ivory-colored, firm and stable
2	20	Smooth, lighter in color than #1, firm and stable
3	30	Smooth, cream-colored, firm and stable
4	40	Smooth, cream-colored, less firm and stable
5	50	Smooth, almost white, soft and stable
6	60	Smooth, white, soft and stable
7	70	Soft, white, smooth and stable
8	80	Tendency to break down and separate
9	90	Separates

A number of the above emulsified bases were quite satisfactory from the standpoint of consistency, smoothness, and stability and of these several were quite satisfactory cold creams. If whiteness is an object, most of the creams have the drawback of being off-white or cream or ivory-colored.

Since the anhydrous base appears to have possibilities in the hydrated forms, one was selected

(Continued on next page)

TABLE II.—COMPATIBILITY OF SOME COMMONLY USED DERMATOLOGICAL AGENTS WITH EGG OIL BASES

Agent	Anhydrous Base	Hydrous Base
Acriflavine 0.1%	E	E
Aluminum Acetate 10% Solution	..	E
Aluminum Sulfate 10% Solution	..	E
Ammoniated Mercury 10%	E	E
Antipyrine 5%	E	G
Argyrol 20% Solution	..	E
Belladonna, Pillular Extract 10%	E*	E*
Benzocaine 5%	E	E
Benzoic Acid 5%	E	E
Betanaphthol 5%	E	E
Bismuth Subgallate 5%	E	E
Bismuth Subnitrate 5%	E	E
Boric Acid, Powder 10%	E	E
Boric Acid, Saturated Solution	..	E
Butyn 2%	E	E
Calomel 17%	E	E
Camphor 5%	E	G
Chrysarobin 2%	E	E
Coal Tar, Crude 10%	E	F
Coal Tar Solution	..	E
Cod Liver Oil 15%	E	E
Gentian Violet 2%	E	G
Guaiacol 10%	E	G
Ichthyol 10%	E	E
Iodine 4%	E†	E†
Iodoform 1%	E	E
Lead Subacetate Solution	..	E
Menthol 5%	E	E
Methyl Salicylate 10%	E	E
Peru Balsam 10%	E	P
Phenol 2%	E	E
Phenylmercuric Acetate 0.1%	E	E
Resorcin 5%	E	G
Rosin 20%	E	P
Salicylic Acid 5%	E	E
Sodium Propionate 5%	E	E
Sulfathiazole 10%	E	E
Sulfur, Precipitated 15%	E	E
Tannic Acid 10%	E	F
Thymol 5%	E	E
Undecylenic Acid 5%	E	E
Zinc Oxide 20%	E	E
Zinc Peroxide 10%	E	G
Zinc Sulfate 5% Solution	..	E
Zinc Sulfocarbolate 5%	E	F

* Ethyl Alcohol 5% added.
† Glycerine 10% added with 4% Potassium Iodide.
E—Excellent. G—Good. F—Fair. P—Poor.

FROM THE SECRETARY'S DIARY FOR JANUARY, 1953

5th Now beginning the first full week of the new year and many loose ends to be picked up. The January calendar is beginning to fill up and so we complete the accounts for 1952 while already enmeshed in the proceedings of 1953. Today conferring with staff members on the immediate program as well as long-range activities, with special reference to the impending Council meeting.

9th The past three days busy with routine office procedures and counting among the visitors Dr. Harvey Haag who came to talk with us about possible therapeutic information to be included in the National Formulary, and Colonel Roth who keeps us abreast of developments in military pharmacy. Also many long-distance calls, including talks with President Richards, Chairman Einbeck of the Committee on Status of Pharmacists in Government Service, and Treasurer Schaefer. Late this afternoon on the Capitol Limited to Chicago and meeting Frank Moudry and Al Fritz on the train, with opportunity to talk over many of pharmacy's current problems.

11th Yesterday and today meeting with the National Conference of State Pharmaceutical Association Secretaries at the Bismarck Hotel in Chicago. There are few current problems of pharmacy, either professional or economic, which this group does not touch upon when it gets together. It is refreshing always to get the local point of view and to learn at first hand what these secretaries and their Association members are thinking and where they seem to be headed in their legislative and professional programs. Among the visitors at these meetings were Dr. Swain, Dan Rennick, Bert Mull, John MacCartney, and Carl Raiser. "Substitution" and "multiplication of specialties" came in for their share of discussion. Returning in the late afternoon to Washington.

13th Today a meeting with the Steering Committee of the Committee on Status of Pharmacists in the Government Service with Major Einbeck presiding, and Colonel Robert Black, Chief of the Medical Service Corps, Lt. Col. Roth, Commander Taylor, and Lt. Col. Larnce attending. Later joined by E. Burns Geiger, Chief of Pharmacists in the Veterans' Administration. Much discussion of the ultimate place of pharmacists in the military service.

15th Now to Baltimore for meetings of the Finance Committee, the Publication Committee, and the Council. This evening a long meeting of the Committee on Finance with Chairman Dunning and Messrs. Schaefer, Gregg, Little, and the Secretary in attendance.

16th This morning a meeting of the Committee on Publications, with Dr. Christensen presiding and Messrs. Chase, Francke, Schaefer, Little, and the Secretary present. Now to the dedication of the Kelly Memorial Building on the Baltimore campus of the University of Maryland and listening to well-deserved tributes to the A.PH.A.'s first full-time Secretary and General Manager, and then inspecting the building which had been erected in his honor to house current pharmaceutical activities. The bust of E. F. Kelly which greets the visitor at the entrance to the building is a striking likeness. Immediately following the dedication ceremonies, the members of the Council met at the Sheraton-Belvedere Hotel and in the evening honored H. A. B. Dunning, at a dinner, for his outstanding services to the A.PH.A. and to American pharmacy. He was presented with a gold Life Membership "card" exhibiting a number of unique features.

18th All day yesterday in meetings of the Council and today returning to Washington with President Richards and Council members Moulton and Francke, who expect to see President Eisenhower inaugurated.

19th Today in New York helping to dedicate the new building of the New York State Pharmaceutical Association, which is indeed a landmark with well-equipped offices for the many functions of this active organization.

21st Catching up on routine which had been delayed by the Presidential Inauguration Ceremonies. Late in the afternoon on the Capitol to Chicago for meetings of the American Council on Pharmaceutical Education, the National Commission on Accreditation, the Program Committee of the Hospital Pharmacy Institute, and the Policy Committee of the Division of Hospital Pharmacy.

26th Now back in Washington after a busy four days of meetings in which pharmaceutical education and the problems of hospital pharmacy predominated.

An announcement of twofold interest to pharmacists . . .

Methium is now Council accepted

Of professional interest

The Council on Pharmacy and Chemistry has announced acceptance of Methium, the new Chilcott specialty for use in hypertension to

1. lower blood pressure
2. provide symptomatic relief.

Of commercial interest

In addition to his professional interest and service, the pharmacist runs a business, and from this perspective Council acceptance means greater sales acceptance:

- New doctors will be prescribing Methium
- Current users will continue (or increase) their use of Methium

Methium sales are going up. With Council acceptance, prescribing will be stepped up even more. Be sure you have an adequate supply on hand.

Check both tablet sizes

Tablets		List price, each	Fair trade minimum
125 mg.	100's	$ 2.00	$ 3.00
	500's	8.00	12.00
250 mg.	100's	$ 3.00	$ 4.50
	500's	12.00	18.00

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vi-andro
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vi-estandro
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Anabolic, metabolic, nutritive stimulants for more effective therapy in the menopause and male climacteric and other conditions due to estrogenic and androgenic deficiency. Clinical experience has proved that optimal nutrition potentiating hormonal therapy produces maximum results. In these new Funk products, potent hormones are bulwarked by the normally liposoluble vitamins A, D and E, made water soluble* for more rapid, more complete absorption and utilization . . . plus vitamin B_{12} and other B complex factors, ascorbic acid.

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Niacinamide	20 mg.
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d, Calcium Pantothenate	5 mg.
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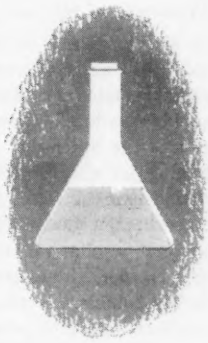
A REPORT FROM THE LABORATORY OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

CELLULOSE DERIVATIVES as aids in extemporaneous compounding



By Samuel W. Goldstein*

* Director of the A. PH. A. Laboratory.

The field of dermatology affords the pharmacist his greatest area for expansion of his compounded prescriptions. Here Dr. Goldstein presents compounding procedures which will expedite the work of the pharmacist and increase his service to both physician and patient.

RECENT surveys indicate a decline in the proportion of prescriptions that require extemporaneous compounding. They also show that the number of prescriptions for dermatologic medication has increased and that about one-third of this group require the use of compounding techniques. Pharmacists should indicate their ability and their desire to cooperate with dermatologists in order to retain and develop this field of interprofessional activity. The extent to which the study of dermatologic formulation has attracted research efforts is indicated by the fact that about one-third of the papers presented before the Section on Practical Pharmacy at the Centennial Meeting of the A.PH.A. in August, 1952, were related to this problem.

An outstanding development in the field of dermatologic formulation is the utilization of water-miscible or hydrophilic lotion and ointment vehicles. A concise review of some recent work was reported at the August, 1952 meeting of the A.C.A. (1) While many useful formulations can be prepared with polyhydroxy alcohol esters, polyoxyethylene esters, sodium lauryl sulfate, cetyl alcohol, stearyl alcohol, cetyl-stearyl alcohol mixtures, sulfated alcohols, polyethylene glycols, etc., this report will be limited to some of the general uses of the cellulose derivatives in compounding pharmaceutical preparations.

Products Available

The two cellulose derivatives that are most widely used in pharmaceutical products are: Methylcellulose, N. F.[1] (MC), and Sodium Carboxymethylcellulose, N. N. R.[2] (NaCMC). Sodium Cellulose Sulfate[3] is a relatively new product which is available in experimental lots. This product appears to have many properties similar to those of NaCMC, but very little specific data about its pharmaceutical applications is available.

(Continued on next page)

[1] Methylcellulose is available in small lots from Henry K. Davies & Co., Inc., Glen Rock, N. J., and from R. F. Revson Co., 243 W. 17th St., N. Y. 11, N. Y. It is available from the Dow Chemical Co., Midland, Mich., as "Methocel."

[2] Sodium Carboxymethylcellulose is available in small lots from R. F. Revson Co. (N. N. R. monograph appeared in *J. A. M. A.* 149, 663, June 14, 1952). It is available from Hercules Powder Co., Wilmington, Del., as "Cellulose Gum" or "CMC."

[3] Manufactured by Tennessee Eastman Corp., Kingsport, Tenn.

(*Continued from preceding page*)

Properties of MC and NaCMC

Solubility. MC is insoluble in hot water, slowly soluble in water at room temperature, and more rapidly soluble in cold water. The best and most rapid procedure is to wet the powder with a portion of the water that has been heated to about boiling, let stand for 20–30 minutes, add the remainder of the water as liquid or ice, mix until smooth, then place in a refrigerator until a clear product results. If cold water is added to the dry powder, clumps may form which are very slowly soluble. If the MC is first mixed with powdered sorbitol, water at room temperature can be used.

NaCMC dissolves readily in water at room temperature when vigorously mixed. The powder is added in portions to the water in a mechanical mixer and stirred until a clear product results. If the NaCMC is mixed with powdered sorbitol, a solution in water can be obtained in about one hour by occasional shaking of the mixture in a bottle or jar.

Viscosity Types. Different types of the cellulose derivatives are available so that solutions of different viscosities can be conveniently prepared. The MC types are indicated by the viscosity of a 2 per cent solution of the powder expressed in centipoises. Methylcellulose 400 indicates that a 2 per cent solution of this powder will have an average viscosity of about 400 c.p.s., with a range of 350–550 c.p.s. Types 15, 25, 100, 400, 1,500, and 4,000 are available. NaCMC is available in viscosity types CMC-70-L (low viscosity), CMC-70-M (medium), and CMC-70-H (high). Two per cent solutions of these powders have viscosities in the ranges 25–50 c.p.s., 300–600 c.p.s., and 1,300–2,200 c.p.s., respectively.

Viscosities of solutions of either derivative are decreased as the temperature is raised. If the temperature is raised sufficiently, MC solutions develop a haze and then gel. The clear dispersion can be restored by chilling. The viscosities of the warmed solutions increase as they cool to the starting temperature.

Stability and Incompatibilities

Solutions of MC and of NaCMC are stable. If aseptic equipment and uncontaminated water are used, MC dispersions need no added preservative. NaCMC dispersions tend to permit mold growth unless some preservative is added. It is advisable to include a preservative in formulations of both materials.

Incompatibilities with dispersions of MC and NaCMC cannot be consistently predicted according to a system based upon anionic and cationic antagonism. Miller (2) reported immediate precipitation on addition of the following solutions of cationic substances to a 1 per cent solution of anionic NaCMC: 0.1 per cent acriflavine, 0.1 per cent benzalkonium chloride, 1 per cent quinacrine hydrochloride, and 1 per cent streptomycin sulfate. However, the following solutions of cationic substances did not produce precipitates: 0.5 per cent antazoline hydrochloride, 1 per cent meperidine hydrochloride, 0.1 per cent methylrosaniline chloride, 1 per cent phenacaine hydrochloride, 0.5 per cent thenylpyramine hydrochloride, and 1 per cent thiamine hydrochloride. Concentration appears to be a critical factor in the incompatibilities with solutions of MC and NaCMC. Soluble salts appear to affect the hydration of the MC aggregates in solution, and thus influence gelation. The concentration of salts tolerated decreases with increasing concentration of MC or with increase of viscosity type. Salts that form polyvalent ions act at lower concentrations. NaCMC, acting as a salt of a weak acid, is likely to form precipitates with ions of the heavy metals and particularly with amphoteric multivalent metallic ions.

MC and NaCMC dissolve in distilled water to form neutral solutions which remain stable when solutions of weak acids, e. g., boric acid, citric acid, acetic acid, are added to them. NaCMC exhibits a buffer action to low concentrations of hydrochloric acid (3).

In the consideration of the incompatibilities of MC and NaCMC, one must take into account the "protective colloid" effect of the solutions of these materials. The manner of mixing as well as the added ingredient can determine whether immediate, delayed, or no precipitation will occur. Addition of a small amount of alcohol to NaCMC solutions may cause a curdy precipitate, probably due to dehydration of the colloidal aggregates. When the alcohol is previously diluted with a little water, stable solutions containing up to 40 per cent of alcohol and 1 per cent of NaCMC are obtainable. The lower viscosity types of NaCMC will tolerate more alcohol. MC solutions are miscible with alcohol. Some inorganic and organic compounds, at certain concentrations, will form clear dispersions in the cellulosic solutions, with a "delayed" formation of a turbid suspensoid.

The only advisory statement one can make about the incompatibilities of MC and NaCMC solutions with untried substances is: try it ex-

perimentally at the desired concentration under the required conditions and by different admixture procedures. Some reported and observed general reactions with MC and NaCMC solutions are indicated in Table I.

TABLE I.—EFFECTS OF ADDED SUBSTANCES ON METHYLCELLULOSE AND SODIUM CARBOXYMETHYLCELLULOSE IN SOLUTIONS[a]

Substance Added	MC	NaCMC
Acids (to *p*H about 2)	C	C
Acriflavine 2%	C	C
Atropine Sulfate 2%	C	C
Benzalkonium Chloride 0.1%	C	C[b]
Benzoic Acid 1:1,000	C	C
Chlorobutanol 0.5%	C	C
Chlorocresol 1:250	S	C
Copper Sulfate 1%	C	P
Dibucaine Hydrochloride 1%	C	P
Formaldehyde 40%	C	C
Dioctyl Sodium Sulfosuccinate 0.5% (1%)	C (C)	C (S)
Gentian Violet 1%	C	C
Glycerin	C	C
Homatropine Hydrobromide 2%	C	C
Lime Water	C	C
Magnesium Sulfate 50%	P	C
Mercuric Chloride 1%	C	C
Methylparaben 0.05%	C	C
Phenol 5%	P	C
Potassium Hydroxide 10%	C	C
Procaine Hydrochloride 2%	C	C
Resorcinol 5%	P	C
Silver Nitrate 2%	S	S
Sodium Chloride 18%	C	C
Tannic Acid 5%	P	C
Tetracaine Hydrochloride 1%	C	S
Tripelennamine Hydrochloride 0.5%	C	C
Tween 20 20%	C	C
Zinc Sulfate 10%	C	C
Zirconium Oxide Paste 16%	N	P

[a] Substances in solution added to 1–2 per cent solutions of MC or NaCMC.
C—Clear. S—Slight or delayed precipitate. P—Precipitate. N—No reaction.
[b] Turbidity clears on mixing.

Chlorocresol solution (1:250) is reported (see Table I) as compatible with NaCMC, and as forming a slight or delayed precipitate with MC. Davies (4) and Hadgraft (5) incorporated chlorocresol 1:1,000 and 1:2,000 in 6 per cent and 5 per cent MC (50 c.p.s.) jellies, respectively. The lower concentrations of chlorocresol were satisfactory for preservative action and no incompatibility was noted.

Applications to Extemporaneous Compounding

1. *Suspensions.* Both MC and NaCMC, like tragacanth, acacia, bentonite, alginates, Veegum and other thickening agents, aid in stabilizing suspensions of insoluble powders. For this purpose, 1-2 per cent of MC-400 c.p.s. or NaCMC-Med. can be included in the final product to act as thickening agents and hydrophilic colloids. These concentrations will usually cause an externally applied suspension to dry as a film, the thickness of which will depend on the amount applied and the extent to which it is spread. Glycerin, propylene glycol, or sorbitol can be included as plasticizers as well as for their therapeutic desirability in dermatologic preparations. Bulky powders such as zinc oxide, bismuth subcarbonate, or calamine can be suspended in the MC or NaCMC solutions in a mortar or by use of an electric mixer or by passage through a homogenizer. Less bulky or more dense powders such as benzocaine, starch, or titanium dioxide can be mixed first with more easily suspended powders. Other stabilizing agents, such as sodium citrate, can be added. In a suspension of sulfonamides, sodium citrate might act as a buffer and suspension stabilizer. Zirconium oxide, in the form of the carbonated hydrous paste containing 16–19 per cent of ZrO_2, can be suspended in a MC base. It will form a precipitate with NaCMC.

Plasticizers (5-10 per cent), alcohol (2-10 per cent), or small amounts of wetting agents,[4] such

[4] Small lots available from R. T. Revson Co.

(Continued on next page)

Author's Summary

Pharmacists should foster the tendency of dermatologists to prescribe to suit the needs of the specific case.

The pharmaceutic aids that are available in this field of compounding can be utilized to expedite the required manipulation and to produce more efficacious preparations.

The methods of utilizing methylcellulose and sodium carboxymethylcellulose in extemporaneous compounding are discussed.

The concentrations of ingredients that have been prescribed in grease bases can usually be decreased when water-soluble bases are used. The extent of decrease can be determined accurately only by clinical trial.

(Continued from preceding page)

as Tween 20 or 80 (0.1 per cent) or dioctyl sodium sulfosuccinate (0.06 per cent), improve the spreading and wetting properties of the cellulosic based preparations.

A detailed discussion of this type of preparation in which NaCMC was used as the suspending agent appeared in the April, 1952 issue of THIS JOURNAL (6).

2. *Solutions.* Some water-soluble dermatologic agents can be dispensed in cellulosic film-forming vehicles. Boric acid, gentian violet, acriflavine, and tripelennamine hydrochloride can be dissolved in MC or NaCMC solutions. Phenol, resorcinol, or tannic acid form clear solutions in the presence of NaCMC, but they form precipitates with MC solutions. These compounds are often added to dermatologic preparations containing suspended powders which might mask the incompatibility with MC.

Use of MC or NaCMC solutions as vehicles for ophthalmic medicinals permit longer retention of the active agent at the desired site, and the preparations have better emollient and lubricating action (7).

3. *Emulsions.* Although solutions of MC and NaCMC that have approximately the same viscosity appear to have about the same suspending properties, the MC solutions form more stable foams on agitation and MC appears to be a better emulsifying agent. Both MC and NaCMC can be used to stabilize emulsions. Münzel (8) termed MC a "quasi-emulsifier." The term might be applied also to NaCMC. When oil is dispersed in 2 per cent solutions of MC-400 or NaCMC-M by mechanical mixing, passage through a homogenizer, by trituration with small portions of oil, or even by vigorous shaking in a bottle, an off-white to white colored dispersion of oil in water is formed. On standing for a period of time, the length of which for a particular combination will depend upon the efficiency of the dispersion procedure, these "emulsions" will cream. Usually a white layer, in which the oil particles appear to be emulsified, forms above a turbid water layer. The "cream" layer is easily redistributed by shaking the mixture. The oil dispersions with MC solutions can appear homogenous for days, while those with NaCMC usually separate in less than one day. Addition of small amounts of surface-active materials greatly enhance the emulsifying properties of MC and NaCMC.

The compounding procedure recommended by Davies (4) appears to yield true oil-in-water emulsions with MC. A 20 per cent peanut oil emulsion is prepared as follows: Add 1.5 Gm. of MC-400 c.p.s. to 30 ml. of hot water, mix frequently while cooling to room temperature, add 10 ml. of oil in 4-, 3-, and 3-ml. portions with mixing to emulsify after each addition, then gradually add a mixture of 53.5 ml. of water and 5 ml. of glycerin. Mix vigorously or run through a homogenizer. This method utilizes the MC as a 5 per cent mucilage to form the primary emulsion. When the emulsion was prepared in a Cooper mortar without passage through a homogenizer, there was no apparent separation after 45 days.

4. *Ointments.* Hydrophilic ointments can be prepared from MC and NaCMC jels. Stock jels containing 10-20 per cent of glycerin, sorbitol, or other suitable plasticizer can be used as ointment bases. Because of the manner of manipulation in the preparation of ointments, these bases should always contain bacteriostatic or bactericidal preservatives; such as a mixture of 0.025 per cent methylparaben and 0.015 per cent propylparaben, or 0.5 per cent of chlorobutanol, etc. Use of boiling water in the preparation of the jels is an added safety factor and also hastens the formation of the NaCMC products.

Conveniently manipulated ointment bases can be prepared from the following formulas given in grams:

a.	Methylcellulose	10 (15)	6 (50)	7.5 (100)	6	2 (400 c. p. s.)
	Glycerin	1	10	12.5	12	
	Carbowax 1500	3				
	Petrolatum					60
	Alcohol 70%	95				
	Water		84	80.5	82	38
	Preservative					
b.	NaCMC-Med. viscosity			6.0	6.0	
	Glycerin			12.5		
	Sorbitol				12.5	
	Water			90.0	90.0	
	Preservative					

(Continued on page 116)

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(*Continued from page 114*)

The bases can be prepared with the aid of mechanical mixers or by occasional shaking of the cellulosic material with the water solution (added while hot) in a jar until a jel forms. A final stir in the jar or a rub with a spatula on a tile will insure a uniform product.

A detailed discussion of the use of NaCMC ointment base for ophthalmic preparations appeared in the October, 1952 issue of THIS JOURNAL (9). It was stated that Friede (10) advocated the use of MC as well as NaCMC jels as ophthalmic ointment bases. De Navarre (11) states that higher concentrations of glycerin or sorbitol syrup than 11.5 per cent should be included in the cellulosic ophthalmic ointment bases, and that a fatty acid emulsifier would be helpful. The higher polyol concentration, by increasing the humectant action, would reduce the possibility of sealing the eyelids.

The possibility of using cellulosic ointment bases as vehicles for yellow mercuric oxide should be studied further. It appears that when the hydrophilic ointment of yellow mercuric oxide in MC base is protected from light, and contact with metal is avoided, the product is more stable. Storage in plastic ointment tubes might help.

5. *Stock Dermatologic Suspension Vehicles.* Preparations of this type can be very useful and convenient to both the prescribing dermatologist and the pharmacist. A discussion of the use of NaCMC in the preparation of extemporaneous and stock vehicles for the suspension of prescribed medicinals appeared in the August, 1952 issue of THIS JOURNAL (12). MC and NaCMC solutions, in which are included a preservative and a wetting agent, can be kept on the shelf as stock suspension vehicles. The wetting agent can be omitted and, if necessary, added at the time the medicinal agent is incorporated. The choice of the MC or NaCMC vehicle would depend largely on the compatibility of the prescribed ingredients, and whether a simple suspension or an emulsion-like dispersion is preferred.

In most instances when insoluble ingredients are prescribed, the powders can be triturated in a mortar with the amount of glycerin desired in the final product and the prepared vehicle added in portions with trituration. If a mechanical mixer or a homogenizer is used, a more stable dispersion usually results.

The vehicles are prepared in the same manner as the solutions of MC and NaCMC with the wetting agent (0.065% dioctyl sodium sulfosuccinate or 0.1% Tween 20) and the preservative (0.025% methyl and 0.015% propyl parabens for NaCMC or MC, or 0.1% phenol for NaCMC) dissolved in a portion of the water and added last. The following formulas (parts by weight) yield suitable stock vehicles:

Methylcellulose 400 c. p. s.	20.00	
Sodium Carboxymethylcellulose-M		21.00
Dioctyl Sodium Sulfosuccinate		0.65
Tween 20	1.00	0.30
Phenol		0.90
Methyl Paraben	0.25	
Propyl Paraben	0.15	
Glycerin	...	...
Water	1000.00	1000.00

The MC vehicle has a viscosity about 475 c.p.s. and a *p*H about 7.7. The NaCMC vehicle has a viscosity about 310 c.p.s. and a *p*H about 7.

The small amount of Tween 20 is included in the NaCMC formula to clarify and stabilize the vehicle. If the vehicle is to be used within a month after its preparation, and a turbid dispersion is not objectionable, the Tween can be omitted. If more than 2 per cent of phenol or resorcinol is to be included in a final product, the Tween must be omitted. The opalescent NaCMC vehicle without the Tween is clarified upon addition of resorcinol.

All or part of a desired amount of glycerin can be incorporated in the above vehicles, or the glycerin can be added with the medicinal agent. About 30 parts of glycerin or some other plasticizer, such as sorbitol syrup or propylene glycol, aids in the formation of a smooth, pliable film when the thinly spread product dries. The presence of 2 to 5 parts of alcohol hastens the drying of the product after application to the affected area. With some products containing both glycerin and alcohol, no wetting agent is needed.

Although dioctyl sodium sulfosuccinate can be used as a wetting agent with MC, Tween 20 was included in this particular MC formula in order to have only nonionic constituents in the vehicle The fact that Tween 20 and phenol are incompatible is not important here, because MC itself precludes the addition of phenol.

The nonionic MC vehicle forms a more stable dispersion of cade oil 5 per cent mixed with triethanolamine 1.5 per cent than does the NaCMC vehicle. The MC vehicle forms a more stable 2 per cent solution of scarlet red sulfonate. This chemical is used to stimulate epithelial cell growth in burns, and its application in a film-forming vehicle should be helpful. Bismuth subnitrate exhibits its gelling action on the MC vehicle as well as on the NaCMC vehicle; while both vehicles will carry bismuth subcarbonate or subgallate very well.

(*Continued on page 118*)

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(*Continued from page 116*)

6. *Internal Medicinals.* MC and NaCMC can be used as thickeners and stabilizers in emulsions and in suspensions used for internal medication. They are used in tablet form and as syrupy liquids for their bulk-forming laxative properties. They are not absorbed appreciably from the intestines, and they do not interfere with the absorption of vitamins or other medicinal agents through the intestinal mucosa(13, 14).

Discussion

In many instances solutions of MC or NaCMC will serve equally well. The limitations of one or the other due to incompatibilities can be ascertained only by experience. Some of the more important incompatibilities that we have observed have been reported herein; but the fact that manipulative procedures and the addition of other materials might alter some of the observed results is noteworthy.

The ready solubility of NaCMC is of special value for extemporaneous work. A 2 per cent solution of the commercially available powder can be prepared in 250-ml. (8 fl. oz.) quantity in 2 minutes in a blendor or in 5 minutes in a mixer. The dispersions are water-clear and ready for use.

The emulsifying property of MC is of special value when oils are included in prescribed formulas. More stable emulsions are produced by forming a primary emulsion with a jel of the MC than with a solution; and passage of the mixture through a homogenizer helps emulsion stability.

This review of the applications of MC and NaCMC as pharmaceutic aids in extemporaneous compounding is in no sense intended to detract from the other recently developed dermatologic compounding aids. THIS JOURNAL attempts to familiarize the compounding pharmacist with the new pharmaceutic aids as well as with new uses of established materials. Its object is to enable the pharmacist to develop and retain as much of his professional compounding activities as possible.

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The utility and compatibility of Anhydrous Egg Oil Base and the Hydrated Base were studied by incorporating some commonly used dermatological agents into these bases. Oil-soluble drugs were incorporated into the anhydrous base by adding to the molten base. Insoluble drugs were incorporated by triturating with the base in a mortar. Water-soluble drugs were incorporated in the hydrated base by first dissolving in 30 ml. of water or by using the solution as indicated and triturating with 70 grams of the anhydrous base. Compounds not decidedly water-soluble were incorporated in the hydrated base by triturating in a mortar. See Table II on page 107.

Aside from its application in pharmaceutical ointment bases, egg oil apparently has possible applications in cosmetic formulations. Not only is egg oil an excellent emulsifying agent in the formulation of cold creams, but it contributes to the texture, as well as to the lubricating and spreading properties of these creams which may also be considered all-purpose creams, hand creams, and/or foundation creams. Table III gives a number of formulas for such creams utilizing egg oil. Although these formulas should not be considered as the ultimate for such creams, they may serve as a guide in developing such preparations.

TABLE III.—EGG OIL CREAMS

Ingredients	1	2	3	4	5	6
Egg Oil	5	5	6	4	10	5
Ceresin Wax	4	8			3	7
White Petrolatum	45	6	4		3	4
Mineral Oil—Heavy		18	24		24	14
Diethylene Glycol stearate		5			2	
Stearic Acid			14			
Triethanolamine			1			
Spermaceti	3		3	5		
Glyceryl Monostearate	3			20		
Cetyl Alcohol					2	
Diglycol Stearate						13
Glycerine			5	5		
Water to make	100	100	100	100	100	100

Various other cosmetic products utilizing egg oil as an emulsifying and emollient agent have been prepared. Representative of these are the following:

Egg Oil Hand Lotion

Glyceryl Monostearate..... 18
Stearic Acid..... 13
Propylene Glycol..... 25
Alcohol..... 50
Triethanolamine..... 2.5
Egg Oil..... 10
Perfume..... 5
Water.....376.7

Egg Oil Shampoo

Egg Oil..... 25
Mineral Oil.....150
Diglycol Laurate..... 40
Cocoanut Oil Soap 40%.....235
Aerosol OT 10% Solution..... 50

Egg Oil Brushless Shaving Cream

Egg Oil..... 3
Stearic Acid..... 16
Mineral Oil..... 9
Glycerine..... 5
Triethanolamine..... 1.8
Borax..... 1.8
Water to make.....100

Egg oil has further possibilities of application in hair waving solutions and in nail enamel removers where an emollient effect is desired to combat drying caused by loss of natural oils during the process.

Summary and Conclusions

Egg oil prepared by the solvent extraction process is a new substance embodying the emulsifying properties of egg yolk without the hazard of decomposition. Incorporated in ointment bases, it confers hydrophilic properties upon the base which may be utilized as an absorption base for the preparation of water-in-oil emulsions.

The compatibility of these bases with commonly used dermatological agents is more than satisfactory.

Egg oil, when utilized in cosmetic creams, lotions, and shampoos improves their texture, increases their lubricating and emollient properties, has none of the tackiness or stiffness that is characteristic of lanolin, and is more easily worked and handled than the latter.

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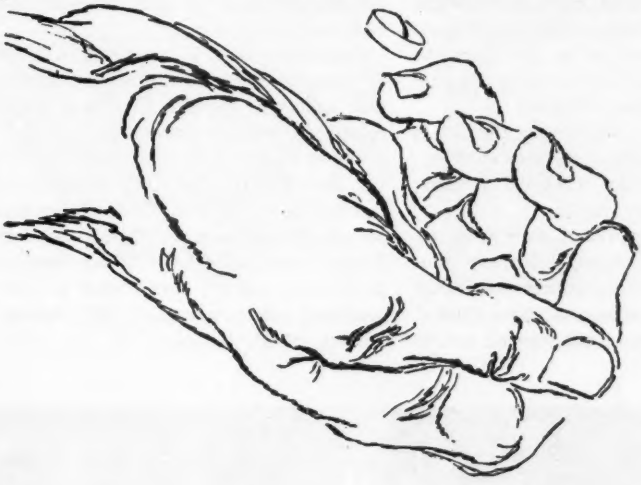

Just 1 or 2 Pentids Tablets t.i.d. are particularly effective . . . convenient, easy-to-take . . . cause fewer side effects . . . and are less than ½ the cost of the newer antibiotics.

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Squibb 200,000 Unit Penicillin Tablets

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SQUIBB

PHARMACY CADETS

train at medical field service school

Brooke Army Medical Center, Fort Sam Houston, Texas, is site of training school for 151 R.O.T.C. Pharmacy Cadets. Encampment lasted six weeks, and covered basic training as well as special instruction.

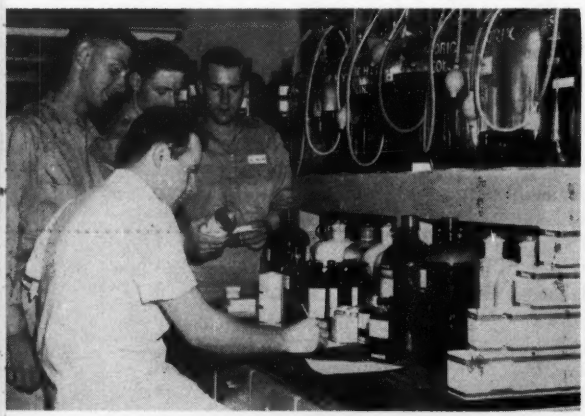
A NEW reservoir of manpower for America's national defense was built up this past summer during the 1952 Reserve Officers' Training Corps encampment held for pharmacy students at the Medical Field Service School, a unit of Brooke Army Medical Center, Fort Sam Houston, Tex.

During the six-week encampment, which began the last week in June and continued until August, 151 pharmacy cadets were on hand to learn the Army's professional needs and the ways of giving medical support to combat soldiers.

In the first two weeks of training, the cadets studied such basic subjects as military courtesy, organization of the Army, chemical warfare, dismounted drill, and map reading.

During the last four weeks, they took up specialized instruction. Since pharmacy students are scheduled for reserve commissions in the pharmacy, supply, and administrative section of the Medical Service Corps, their training took in prescription and laboratory supply services of the Army and participation in "Operation Buckhorn" at nearby Camp Bullis. The latter maneuver called for a demonstration by the cadets of what they had learned about medical support of infantry divisions in combat zones. Cadets assumed the roles of battalion surgeons, medical technicians, and casualties.

Graduation time meant special recognition for 17 students who were named distinguished military cadets as the result of their outstanding records at civilian universities and during the course of the R.O.T.C. encampment. A like number, who had received their pharmacy degrees last June, got their Army Reserve commissions as second lieutenants in the Medical Service Corps. Nine of these cadets have already been called to active duty and are now attending a nine-week company officer course at the Medical Field Service School.



Cadets Hecker, Rippie and Phillips of the University of Wisconsin examine some of the training equipment.

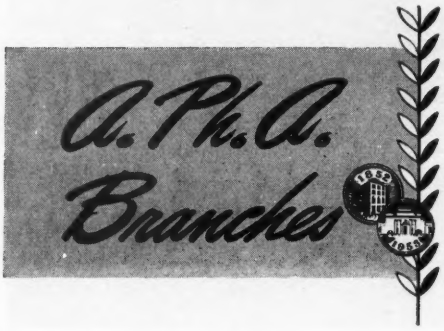
Col. Othmar Goriup, executive officer, named J. W. Barron, right, top cadet.

Not all work was pharmaceutical. Here the cadets chart their course through a simulated battle zone to a rendezvous point during a map problem.

D. C. Wilson, California, and John Jacobson, Wisconsin, act as receiving clerk, patient.

Ohio State cadets Silinsky, Marlowe, Orchen. and Bainbridge share a meal in the field.

Many situations met in battle were faced by the cadets. Here they run through a smoke screen. Cadets named on these two pages are all members of their college A.Ph.A. student branches.



STUDENT BRANCHES

The **University of Arizona Student Branch** held its December and January meetings at the Golden Drumstick, Tucson. At the December 13 meeting, a recording of the highlights of the Centennial Convention was played. The election of officers was held at the January 10 meeting and the following officers were elected: Bill Brincko, president; Barry Clothier, 1st vice-president; John Hayward, 2nd vice-president; Mary Jo Troeger, secretary; Harold Beller, treasurer; and Harry Kabelin, sergeant-at-arms.

Richard D. Allen has been recently elected president of the **University of Michigan Student Branch.** The other new officers are: Bruce E. Gillespie, vice-president; Shirley A. Swinson, secretary; and Patricia A. Pauling, treasurer.

On January 6, 1953, the **Massachusetts College of Pharmacy Student Branch** had as guest speaker Linwood F. Tice, assistant dean of the Philadelphia College of Pharmacy and Science, and chairman of the Committee on Student Branches of the A.PH.A. More than two hundred student members were present to hear Chairman Tice's address.

The newly elected officers of the **Cincinnati College of Pharmacy Student Branch** are: Robert A. Werner, president; Stanley Litmer, vice-president; Mary Lou Hug, secretary; and Archie Ernst, treasurer.

The **University of Georgia Student Branch** recently elected Jule Spears, president; Tommy Bryan, vice-president; Frances Lipscomb, secretary; Geneva Flowers, corresponding secretary; and Rogers Wood, treasurer.

The **Ferris Institute Student Branch** will be host to the District No. 4 A.PH.A Student Branch Convention in Big Rapids, Mich., on April 23–25. Arnie Paulson is general chairman for this convention. The programs for this convention will be sent to the members of District No. 4 very shortly.

At the January meeting of the **Ferris Institute Student Branch,** the guest speaker was Dr. Payne, from Parke, Davis & Co. co-discoverer of chloromycetin. In December Mr. G. E. Bowles of Johnson & Johnson was the guest speaker. Mr. Bowles presented two films which illustrated his speech on "Sell as Customers Like It."

LOCAL BRANCHES

Mr. D. R. Zimmerman of E. R. Squibb & Sons spoke before the **Northern New Jersey Branch** of the A.PH.A. at its meeting on January 7 at Rutgers College of Pharmacy. His topic for the evening was "Current Status of New Anti-Tubercular Drugs." A film on Nydrazid followed.

The **Northwestern Branch** held a dinner meeting on November 10, 1952, in Minneapolis. Dr. Charles V. Netz, the guest speaker, spoke on "Spans and Tweens—Their Use in Pharmaceutical Preparations."

Dr. Robert V. Cohen, an authority in the control and therapy of tuberculosis, presented the interesting historical and clinical aspects of the disease in an after-dinner speech at the January 15th meeting of the **Philadelphia Branch** of the A.PH.A.

At the meeting afterwards, held in the Auditorium of the School of Pharmacy at Temple University, Dr. H. Herbert Fox, senior research chemist of Hoffmann-La Roche, Inc., spoke on "Tuberculostats—The Modern Chemotherapeutic Agents Employed in the Control of Tuberculosis."

Dr. John L. Dandreau, Dean of the St. John's University College of Pharmacy since 1929, was elected president of the **New York Branch** of the A.PH.A. at a meeting on January 12 held at the Downtown Division of St. John's University. Other elected officers are: Irving Rubin, vice-president; Harry Kaye, treasurer; and Frank J. Pokorny, secretary.

The **Northwestern Ohio Branch** held its first meeting of 1953 at the Toledo Chamber of Commerce on January 28. Dr. Maurice H. Bigelow, technical director of Plaskon Co., Inc., spoke on the subject "Modern Plastics and Their Uses."

BRIEFLY NOTED

COLLEGES

The Johns Hopkins Hospital, in cooperation with the Graduate School and the School of Pharmacy of the University of Maryland, has recently announced that internships in pharmacy are open to a limited number of 1953 or other recent graduates of recognized schools of pharmacy. Appointments are for a period of 22 months beginning September 1, 1953. During 20 months, interns devote one-half time to hospital pharmacy training and one-half time to graduate study. Full-time training in the hospital pharmacy is required for two months during the summer of 1954. Four weeks of vacation are allowed during the term of the appointment. Upon satisfactory completion of the internship and the course of study, Master of Science degrees are conferred by the University of Maryland and Certificates of Internship are awarded by The Johns Hopkins Hospital. A stipend of $150 per month is provided by the hospital. The University of Maryland makes a reduction of 25 per cent in tuition fees. All letters of application and other required information should be forwarded to Russell A. Nelson, M.D., Director, The Johns Hopkins Hospital, Baltimore 5, Md., not later than April 1, and appointments will be announced on or before May 15, 1953.

The St. Louis College of Pharmacy and Allied Sciences will hold a one-day refresher course on Thursday, March 5, 1953. Alumni and other pharmacists in the area served by the College are invited to attend. Advance registrations are requested; a fee of $2 will be charged for the entire program, including lunch.

The **Fordham University** Medical Aid Station proved itself efficient and competent in emergency medical work last December during New York City's practice air alert. Dr. Leonard J. Piccoli, professor of Public Health at Fordham College of Pharmacy and director of the Civil Defense Medical Aid Station at Fordham University, organized the efforts of pharmacy students, faculty members, physicians and nurses in the rescue operations.

The annual alumni mid-winter reunion dinner of the **Philadelphia College of Pharmacy and Science** will be held this year at the College on Saturday evening February 28. The program will feature a male quartet and an illustrated travel talk by a lecturer who has a special talent for making such affairs interesting and instructive. Alumni President Brua C. Goodhart, M.C.C. 1907, will be the toastmaster.

Butler University College of Pharmacy has recently announced a program of graduate study, which begins in September, 1953. Majors or minors may be pursued in pharmacy, pharmaceutical chemistry, or pharmacology. Minors are also available in botany, chemistry, zoology, and business administration. For information concerning assistantships, etc., address all correspondence to The Dean, Butler University, College of Pharmacy, Indianapolis 7, Ind.

The celebration of the 75th anniversary of the founding of the **School of Pharmacy of the University of Pittsburgh** had its official beginning at a meeting held in the Cathedral of Learning on Monday evening, January 12, 1953. At this time members of various committees heard the general chairman, Dr. George D. Beal, and the vice-chairman, Dr. Stephen Wilson, outline plans for activities that are to take place during the coming few months. Among the events planned are a co-operative exhibit between manufacturers and the School of Pharmacy, which will be held in the South Gallery of the Buhl Plane-

(Continued on page 126)

Briefly Noted

• • • • • • • • • • • • • *from page 125*

tarium from March 1 to 15. This exhibit has as its purpose the education of the public concerning the opportunities, responsibilities and duties of the pharmacist in modern society, together with the advantages of a pharmaceutical career.

This year the **University of Florida** is celebrating its founding 100 years ago. From a humble wooden school in Ocala in 1853, with a faculty of six, the University of Florida now has over 9,000 students, a faculty of 1,300, a plant valued at 35½ million dollars, and 4 divisions and 10 colleges, including the College of Pharmacy. With an enrollment of 353 sophomores, juniors, and seniors, the University of Florida College of Pharmacy is the largest in the South and the third largest in the country. Since its founding in 1923, it has taken a leading role in upholding and improving the standards of the profession.

Mr. Myron Walker, chairman of the Board of Trustees of the **Columbia University College of Pharmacy,** announced at the Mid-Winter Alumni Night on January 20 that the College of Pharmacy has selected a site for a new building and a plot is being assembled. Dr. Rudolph Hauck, '25, vice-president of Bilhuber-Knoll Corp. and a former president of the Alumni Association, stated that the alumni had adopted a one million dollar goal for its part in the building fund program.

ASSOCIATIONS

Election of Dr. David B. Steinman and Dr. Maurice L. Tainter, director of the Sterling-Winthrop Research Institute and a vice-president of Sterling Drug Inc., of which the Institute is a division, as president and vice-president of the **New York Academy of Sciences** was announced following the Academy's 135th annual meeting recently held in New York. Other officers elected for the 1953 term by the N.Y. Academy of Sciences, fourth oldest scientific society in the country, included: Dr. Paul Fejos, president-elect; Dr. Elmore H. Northey, vice-president; Mr. Junius Bird, corresponding secretary; Mr. John Tee-Van, recording secretary, and Mr. Donald M. Benjamin, treasurer.

Dr. Benjamin M. Duggar, discoverer of aureomycin, will deliver the first annual Julius W. Sturmer Memorial Lecture of the **Rho Chi Honorary Pharmaceutical Society** of the Philadelphia College of Pharmacy and Science on Wednesday evening, March 25. Dr. Duggar, who is associated with the Lederle Laboratories, is well known for his pioneering work in the field of antibiotics, and has chosen for his talk the subject "Antibiotics Today; Procedures in the Development of a New Antibiotic." Those associated or interested in the medical sciences are welcome to attend.

The New York State Pharmaceutical Association held the dedication ceremonies of its new headquarters building on January 19, 1953. A special convocation, presided over by Dr. Hugo H. Schaefer, was held in the adjacent auditorium of Hunter College. Dr. Robert P. Fischelis brought greetings from the AMERICAN PHARMACEUTICAL ASSOCIATION, as did Jerome Trichter, Edward T. Wentworth, and Marcus D. Kogel from the Department of Health, City of New York, the Medical Society of the State of New York, and the Department of Hospitals, City of New York, respectively.

Nearly 500 pharmacists from all parts of New Jersey attended the annual mid-winter meeting of the **New Jersey Pharmaceutical Association** held at Newark, N.J., on January 28. Joseph H. Stamler, counsel of the N.J.Ph.A., and Stephen M. Duschock and Wilbur E. Powers, respectively president and secretary of the State Board of Pharmacy, were among the speakers. The Association called upon the Legislature to bring the 1952 narcotic regulations "more into conformity with reasonable professional practices." The evening dinner honored President Ira I. Schwarz, who presided at the general session.

Through the efforts of the **Nebraska Pharmaceutical Association,** the Public Health Committee of the Nebraska State Legislature has voted to include a pharmacist in the proposed seven-man State Board of Health. The bill proposing the creation of a Board of Health is now out of committee and has advanced to general file of the legislature. The Nebraska Pharmaceutical Association plans to continue its support of the bill until it has been passed by the legislature.

MANUFACTURERS

The formation of a new corporation, **Foundation Laboratories, Inc.,** to speed and broaden distribution of steroid hormone products was recently announced by Ronald Helps, who has been selected as president of Foundation. Formed as an independent American corporation, the new company will be devoted exclusively to the ethical development and distribution of steroid hormone products produced by Syntex, S.A., of Mexico. Dr. John R. Mote, who headed the development work on ACTH as medical director of Armour Laboratories, has been named medical director of Foundation Laboratories.

Personnel Changes—

Bristol Laboratories Inc.—Dr. Charles H. Mann has been appointed medical director of Bristol Laboratories Inc. **Eli Lilly and Company**—M. E. Parker has been named administrative director of Production at Eli Lilly and Company. In the same function of the business, R. C. Gery has become director of Pharmaceutical Production, and Dr. H. A. Dettwiler advanced to director of Biological Production. At the same time, J. E. Marmon was named director of a new Production Methods and Package Development Division. Jasper P. Scott was recently named to the newly created post of executive director of operations planning. **Johnson & Johnson**—W. E. Sawyer, director of education since 1946, has been promoted to director, Merchandising Services, and M. D. Schackner, former assistant director of Education, has been given full responsibility for Johnson & Johnson's extensive retail and consumer educational programs as director of Education. **Nepera Chemical Company**—Harley L. Knauer has been appointed general sales and advertising manager of Nepera Chemical Company. **A. H. Robins Co., Inc.**—Appointment of E. W. Zeller as general sales manager was recently announced. Mr. Zeller succeeds to the position held by the late E. F. Heffner, Jr. **Riker Laboratories, Inc.**—Justin Dart, who recently assumed the presidency of Riker Laboratories,

(Continued on next page)

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PLAN NOW TO ATTEND
the 1953
A.PH.A. CONVENTION
SALT LAKE CITY, UTAH
AUGUST 16-21, 1953
FOR DETAILS, SEE PAGE 102

(Continued from preceding page)

Los Angeles, a subsidiary of Rexall Drug Company, has announced the following new appointments in the organization: Dr. George L. Maison, vice-president and general manager; A. H. Ridges, vice-president in charge of Sales; Dr. J. A. Raynolds, vice-president in charge of Manufacture; Dr. J. W. Stutzman, director of Research and development; Dr. George Cronheim, director, New Product Research; and Dr. Norman W. Karr, director of Clinical Research. **Rystan Company**—Frank Ireland, production manager of Rystan Company, has been named vice-president in charge of sales. **Wyeth Laboratories**—D. O. Wilson, manager of Wyeth Laboratories' sales division eight, has been appointed manager of the West Coast Division at San Francisco, Calif. He will replace H. D. Pilchard who "retired" on January 1, but has no intention of resting after 51 years' experience in the fields of manufacturing pharmacy. His new status with Wyeth will be that of "Roving Ambassador."

OBITUARIES

Fred W. Schimpf, 70, of Orwigsburg, Pa., died Tuesday evening, December 16, 1952, after a brief illness. He was a member of the AMERICAN PHARMACEUTICAL ASSOCIATION and a well-known druggist, popular throughout the entire Schuylkill County for his generosity and kindness to the children of his community.

E. F. Heffner, Jr., vice-president and general sales manager of the A. H. Robins Co., Richmond, Va., died suddenly on December 27 at Richmond. He had been in charge of sales for the Robins Co. since 1942.

Caleb Coffin, advertising and public relations manager for E. R. Squibb & Sons since 1946, died in his home, 130 East 75th Street, New York City, on January 15. Mr. Coffin had been ill several months.

The AMERICAN PHARMACEUTICAL ASSOCIATION regrets to note the death of Mrs. Carl T. Durham, wife of Congressman Durham, pharmacist member of the House of Representatives from North Carolina. Funeral services were held at Chapel Hill on January 11. She is survived by her husband, four daughters and a son.

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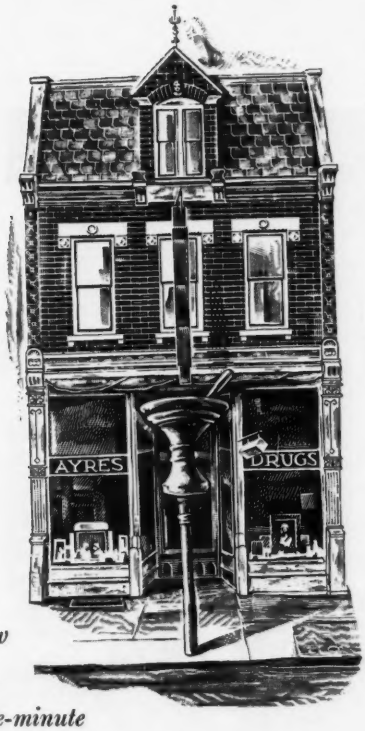

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Section on Practical Pharmacy: Elmer M. Plein, chairman; Samuel W. Goldstein, secretary, 2215 Constitution Ave., N.W., Washington 7, D. C.

Section on Education and Legislation: J. L. Voigt, chairman; Robert A. Walsh, secretary, 179 Longwood Ave., Boston, Mass.

Section on Pharmaceutical Economics: Alvah G. Hall, chairman; Irving Rubin, secretary, 128 Marine Ave., Apt. 1-H, Brooklyn 9, N. Y.

Section on Historical Pharmacy: Edward S. Brady, chairman; Edward J. Rowe, secretary, 5819 E. Washington St., Indianapolis 1, Ind.

ADMINISTRATIVE STAFF

Robert P. Fischelis, Phar.D. Sc.D., secretary and general manager; Felix B. Gorrell, controller and office manager.

Justin L. Powers, Ph.D., National Formulary and *Scientific Edition* of THE JOURNAL OF THE A. PH. A.; Bernard Zerbe, A.B., *Practical Pharmacy Edition* of THE JOURNAL OF THE A. PH. A.; Samuel W. Goldstein, Ph.G., Ph.D., laboratory; Don E. Francke, Sc.D. and Gloria Niemeyer, B.Sc., hospital pharmacy; Mary Louise Bergner, A.B., membership.

POSTAL AND SUBSCRIPTION NOTICE

PUBLISHED by the American Pharmaceutical Association. Publication Office: 20th and Northampton Streets, Easton, Pa. Editorial office (and address for all correspondence): 2215 Constitution Ave., N.W., Washington 7, D. C.

ANNUAL SUBSCRIPTION—Journal of the American Pharmaceutical Association complete (both editions): United States and Pan American $7; Canada $7.70; other foreign $8; members of the American Pharmaceutical Association with dues, $4. Each edition, Scientific Edition or Practical Pharmacy Edition: United States and Pan American $4; Canada $4.35; other foreign $4.50. Single numbers, either edition: United States and Pan American $0.35; Canada $0.40; other foreign $0.50.

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JOURNALS LOST IN MAILS cannot be replaced if due to failure to notify of change of address 30 days in advance, or if claim is made after lapse of three months.

ENTERED as second-class matter January 23, 1917 at the Post Office at Easton, Pennsylvania, under the act of March 3, 1879 as 24 times a year; Scientific Edition monthly on the 5th; Practical Pharmacy Edition monthly on the 20th. Acceptance for mailing at a special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

Franzoni, Macht and Powers Honored for Work in Pharmacy

F. Royce Franzoni, president-elect of the AMERICAN PHARMACEUTICAL ASSOCIATION; Dr. David I. Macht, director of the Laboratory for Pharmacological Research, Sinai Hospital, Baltimore; and Dr. Justin L. Powers, Chairman of the Committee on National Formulary, and editor of the *Scientific Edition* of the *Journal of the* AMERICAN PHARMACEUTICAL ASSOCIATION, received special recognition for their contributions to pharmacy and science, at three separate ceremonies held in February.

Mr. Franzoni, a practicing pharmacist of Washington, D. C., received an Honorary Degree of Master in Pharmacy from the Philadelphia College of Pharmacy and Science, at a formal convocation celebrating the College's 132nd anniversary, February 23, 1952. Mr. Jacob Katz, chairman of the Pennsylvania Board of Pharmacy, also received an Honorary Degree of Master in Pharmacy at the ceremonies. Dr. Theodore Klumpp, president of Winthrop Stearns Inc., New York, was the principal speaker.

Dr. Macht, a member of the AMERICAN PHARMACEUTICAL ASSOCIATION since 1923, was presented with a medal and Honorary Membership in the Royal Academy of Pharmacy of Madrid, in ceremonies held at the Spanish Embassy, Washington, on February 12. Don Jose Felix de Lequerica, Ambassador of Spain, made the presentation, and paid tribute to his many scientific contributions in pharmacology and phytopharmacology.

Founded in 1859, the Academy is one of the World's oldest scientific institutions. Membership is an honor bestowed on distinguished scientists for outstanding contributions to human welfare. To date, there are forty members of the Academy, 26 of them from countries outside Spain. Dr. E. Fullerton Cook, former director of Revision of the U. S. Pharmacopeia, is also a member of the Academy. The eminent Spanish botanist, Professor Florencio Bustinza, proposed Dr. Macht for the Award.

Members of the Xi Chapter of Phi Delta Chi Fraternity, Ohio State University, named Dr. Justin L. Powers as recipient of the Annual Professional Interfraternity Council Plaque for outstanding contributions to professional progress. A former member of the faculty at the University of Michigan, Dr. Powers has been Chairman of the Committee on National Formulary since 1940 and editor of the *Scientific Edition* since 1942.

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prolonged SPAN *of time*

'SPANSULES' offer these *unique advantages* to your physicians:

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3. maximum convenience to the patient (only one dose daily)

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Bottles of 30

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†T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.
'Spansules' Trademark Patent Applied For

New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

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Grill, Frederick, Portland, Ore.
Niles, Edward H., Indianapolis, Ind.

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Graziani, Vincent, San Francisco
Harper, A. A., Stockton
Hibben, Harry M., Fresno
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Seltzer, Joseph P., Oaklyn

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Rhuark, Elwood M., Carrollton

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Hudgens, Joseph W., Taylors
Meiburg, Albert, Clemson

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Martin, John O., Seattle

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Blackbird, Aloysius P., Waupon
Druschke, Harold A., Milwaukee
Krahnke, Harold C., Milwaukee
Lange, Donald M., Racine
Nonhof, Glen F., Milwaukee

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Baco, Carlos, Puerto Rico
Baco, Carlos Juan, Puerto Rico
De Jesus, Amilcar L., Puerto Rico
Feliciano, Mrs. Aura Iris, Puerto Rico
Marin, Manuel, Puerto Rico
Motta, Jose E., Puerto Rico
Negron, Jose A., Puerto Rico

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Brandon, Henry G., Winnipeg, Man.
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REDISOL—crystalline vitamin B_{12}—is now available in three dosage forms for the convenience of the prescribing physician to administer vitamin B_{12} orally or parenterally.

Since many issues of the leading medical journals contain additional mention of the effectiveness of vitamin B_{12} in nutritional anemias, you will want to stock this potent "red" vitamin in all dosage forms.

REDISOL Soluble Tablets are supplied, in 25-microgram potency, in vials of 36 and bottles of 100; 50-microgram, in vials of 36. REDISOL Elixir, containing 5 micrograms of vitamin B_{12} per teaspoonful (5 cc.), is supplied in pint SPASAVER® bottles and in gallon bottles. REDISOL Injectable, containing 30 micrograms per cc., is supplied in 10 cc. vials. Sharp & Dohme, Philadelphia 1, Pa.

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Vitamin B_{12}

Redisol®

soluble tablets elixir injectable

RECENT

PROGRESS IN MEDICINE

Use of Single Antibiotic Recommended

Only in certain serious diseases should more than a single antibiotic be employed at one time, in the opinion of three physicians associated with the Department of Medicine, University of Illinois College of Medicine.

Use of more than one antibiotic to treat a disease sometimes results in one antibiotic interfering with the therapeutic effect of the second. According to the doctors, clinical experience has shown that a single antibiotic can be used effectively in most infections caused by a single organism, and that one antibiotic is all that is necessary in the treatment of most mixed infections. In rare cases, where a single antibiotic is not sufficient, the sensitivity of the bacteria should be studied in order to determine which antibiotic should be used, they added. Only when streptomycin is the principal effective drug is it necessary to employ simultaneously two antibiotics to diminish the frequency of the development of resistant strains of bacteria, the report noted. However, they state, in certain infections the value of combinations of antibiotics has been proved to produce a therapeutic effect that cannot be achieved when one of the antibiotics is employed alone or when it is not feasible to increase the dose. The synergistic action of certain antibiotic combinations are indicated as well as the antagonistic results obtained with other combinations of antibiotics in certain conditions. Examples include the use of streptomycin plus aureomycin (tetracycline), chloramphenicol, or oxytetracycline (terramycin) in brucellosis; penicillin plus aureomycin, chloramphenicol or oxytetracycline in serious staphylococcic infections when the organism is resistant to only one of these antibiotics when it is used alone; bacitracin and penicillin in syphilis, and penicillin and streptomycin in infections of the heart lining caused by intestinal streptococci.

(Dowling, Harry F., Lepper, Mark H., and Jackson, George G., *J.A.M.A.*, **151:** 813, March 7, 1953.)

Toxic Reactions from Fowler's Solution: Treatment with Dimercaprol

The 1 per cent solution of potassium arsenite that was introduced by Thomas Fowler in 1786 is not often used in general medicine, but it is prescribed as a palliative for dermatological conditions. The important toxic reactions to Fowler's solution are discussed by two Irish physicians, with particular reference to a case of toxipathic hepatitis due to administration of 4–8 minims three times a day for two years in the treatment of dermatitis herpetiformis. Intramuscular injections of 3 mg. of mercaprol per Kg. of bodyweight were given every four hours for 48 hours and then twice daily for seventeen days. The urinary excretion of arsenic increased considerably and the liver returned to about normal size.

(Wade, H. J., and Frazer, E. S., *Lancet*, **6754:** 269, February 7, 1953.)

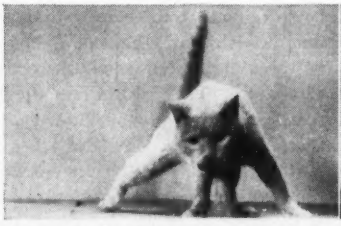
Complications Induced by Chemotherapy

According to two physicians from the Harvard Medical School, the widespread use of antimicrobial agents may have completely resolved many perplexing problems in the field of infectious disease, but at the same time, has created many new, and even more, perplexing problems. Toxic and allergic reactions and others related to the biologic activities of the chemotherapeutic substances are given as examples. The physi-

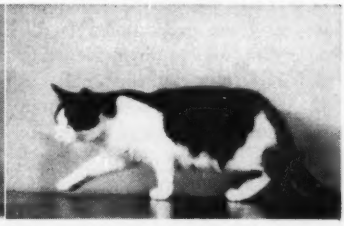
(Continued on page 138)

New principle in Streptomycin Therapy

The hazard of ototoxicity is greatly reduced by combining equal parts of streptomycin sulfate and dihydrostreptomycin sulfate. The patient thus gets only *half* as much of each drug. The risk of vestibular damage (from streptomycin) and of hearing loss (from dihydrostreptomycin) is greatly reduced. Therapeutic effect is undiminished. This principle has been demonstrated in both animals and man. In patients treated for 120 days with 1 Gm. per day of the combined drugs, the incidence of neurotoxicity was practically zero.



Cat treated with streptomycin is ataxic.



Cat treated with the same amount of streptomycin-dihydrostreptomycin has normal equilibrium.

DISTRYCIN
(di-STRI-sin)

Squibb Streptomycin Sulfate *and* Dihydrostreptomycin Sulfate in equal parts

For greater safety in combined antibiotic therapy
These new formulations embody this new principle:

	DICRYSTICIN	DICRYSTICIN FORTIS	DISTRYCILLIN A. S.
Procaine penicillin G, units	300,000	300,000	400,000
Potassium penicillin G, units	100,000	100,000	—
Streptomycin sulfate, Gm.	0.25	0.5	0.25
Dihydrostreptomycin sulfate, Gm.	0.25	0.5	0.25

(All supplied in 1 and 5 dose vials)

'Distrycin' and 'Dicrysticin' are registered trademarks; 'Distrycillin' is a trademark.

SQUIBB
a leader in the research and manufacture of penicillin and streptomycin

Progress in Medicine

• • • • • • • • • • • • *from page 136*

cians found it noteworthy that none of the available chemotherapeutic substances are free of the potentialities of causing trouble. The risk of development of serious reactions varies with each, but two types of reaction are common to all. These are the development of hypersensitivity and the emergence and increase of antibiotic-resistant organisms. The physicians prepared their paper with no intention of minimizing the great value to be gained from the new "wonder drugs" but merely to bring into more prominence some of the dangers inherent in their use.

(Finland, Maxwell, and Weinstein, Louis, *New England J. Med.*, **248:** 220, February 5, 1953.)

Skin-Hypersensitivity to Lanolin

Three New York physicians have just concluded a study of skin-hypersensitivity to lanolin, and report that acetylated or "propionylated" lanolin evoked a significantly lower incidence of positive skin reactions than did the unaltered product. Of 12 subjects with positive patch tests to lanolin, 11 showed a positive patch test to the aliphatic alcohol fraction; but only one of these reacted to this same alcohol fraction after its acetylation. They noted in summarizing their findings that "it appears probable that one or more of the aliphatic alcohols of lanolin are largely responsible for the observed hypersensitivity; for their denaturation through esterification resulted in reduction or abolition of the allergenic capacity."

(Sulzberger, Marion B., Warshaw, Thelma, and Hermann, Franz, *J. Invest. Dermat.*, **20:** 33, January, 1953.)

Dimercaprol (BAL) Ointment in Chronic Chrome Dermatitis

Increased incidence of chrome dermatitis has come with more widespread use of the photographic method in the printing trade and in other industrial developments. Chromium compounds affect the tissue proteins, forming with them chemical compounds, as in the tanning of hide; strong solutions corrode the skin; weak solutions sensitize the skin and cause allergic dermatitis. To date, there has been no specific treatment for chrome dermatitis, with prophylaxis being the best approach to the problem. Now, a physician from the Department of Dermatology and Syphilology, Western Reserve University, reports on a study in which weak concentration of dimercaprol (3%) in zinc oxide paste was used locally. The clinical study of seven cases of chronic chrome dermatitis showed complete clinical remission within two weeks in two hospitalized patients; and 75% improvement in four others. Intolerance to dimercaprol was noted in one of the seven.

(Cole, H. N., *Arch. Dermat. & Syph.*, **67:** 30, January, 1953.)

Newer Drugs in the Treatment of Epilepsy

From the Department of Pediatrics, Northwestern University Medical School, and the Children's Neurology Clinic, Cook County Hospital, Chicago, has come a new report on the recently introduced drugs for the treatment of epilepsy. Noting that epilepsy may frequently be so refractory to therapy that any new drugs may be welcomed, the doctors hold that no drug has been discovered which is effective in all types of seizure. They also stress the fact that the therapy of epilepsy includes more than drug therapy, with the control of other factors of importance. However, on the basis of their study, the two physicians conclude: (1) Phenobarbital is the drug of choice for grand mal seizures in children, and Dilantin in adults, or combinations of the two. (2) Mesantoin is the drug of choice when both grand mal and petit mal coexist. (3) Bromides may be employed when none of the above are effective. (4) Tridione and Paradione are the drugs of choice for petit mal. Both of these drugs have a synergistic toxic effect with Mesantoin. (5) Prenderol is effective in controlling petit mal spells. (6) Phenurone is an all-purpose drug, being effective in psychomotor spells, where it is more efficacious than any other drugs; it is also beneficial in grand mal and petit mal. (7) Gemonil has the unique property of being more effective in organic brain disease than in idiopathic form, and particularly in myoclonic spells. The physicians point out that combinations of the drugs may be tried, except where contraindicated, and that the toxic potentialities of the drugs should be kept uppermost in the mind of the physician. Control of hygienic and psychiatric factors is an important adjunct to the drug therapy of epilepsy.

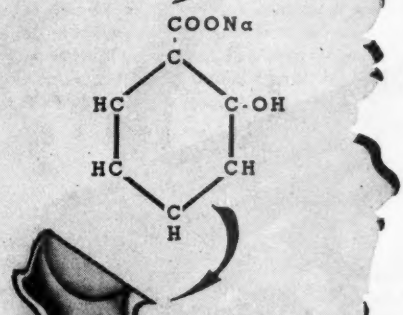
(Perlstein, Meyer A., and Mizell, Irving, *Quart. Bull. Northwestern Univ. Med. School*, **27:** 59, Spring, 1953.)

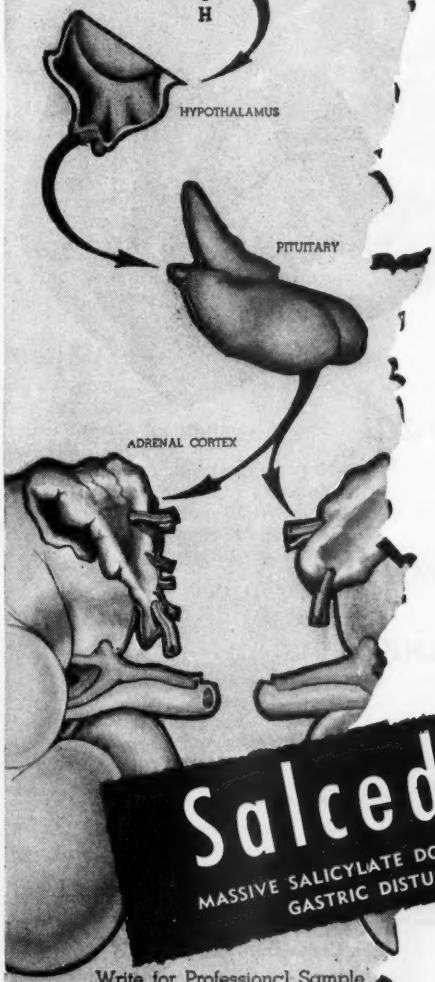
are

SALICYLATES

more than

ANALGESICS ?





There is significant evidence that salicylates, through action on the hypothalamus, stimulate the pituitary, producing an ACTH-like effect on the adrenal cortex.*

This new concept of salicylate action explains many of the clinical results obtained with salicylate therapy in the treatment of arthritides and rheumatic afflictions—observed results that cannot be attributed to analgesic action alone.

MASSIVE DOSAGE

To obtain maximum results, high salicylate blood levels are required. This means high oral dosage—in the order of 60 to 120 grains (4 to 8 Gm.) a day. This massive salicylate dosage can be attained, without excessive gastric disturbance, by using Salcedrox.

Salcedrox virtually eliminates gastric disturbance, because of the protective combination with activated aluminum hydroxide and calcium carbonate.

Salcedrox also contains a high dose of vitamin C, because it has been observed that rheumatic and arthritic states show vitamin C deficiencies, and salicylate therapy has a tendency to intensify depletion of vitamin C.

*Proceedings Soc. Exp. Bio. Med., 1952, v80, 51-55, G. Cronheim, et al.

Salcedrox

MASSIVE SALICYLATE DOSAGE WITHOUT GASTRIC DISTURBANCE

FORMULA

Sodium Salicylate...5 gr. (0.3 Gm.)
Aluminum Hydroxide Gel, dried ..... 2 gr. (0.12 Gm.)
Calcium Ascorbate...1 gr. (60 mg.) (equivalent to 50 mg. Ascorbic Acid)
Calcium Carbonate...1 gr. (60 mg.)

Write for Professional Sample and Literature

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One look inside
your customer's handbag
and you'd say:
"I'm glad I protect my Rx
with Duraglas containers!"

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Look smart and professional
Are moisture-tight
Are sturdy
Are made of inactive material
Show contents
Come in all needed sizes
Are low in cost

NEW PRESCRIPTION PRODUCTS

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists, through these pages, will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this free editorial department, send descriptive literature to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, *2215 Constitution Avenue, N. W., Washington, D. C. Where possible, all descriptions should follow the style shown on these pages.*

ALEVAIRE

Description: An aqueous solution containing: Triton WR-1339, 0.125 per cent; sodium bicarbonate, 2 per cent; and glycerin, 5 per cent.

Indications: For tuberculous and various types of chronic pulmonary diseases characterized by highly viscid mucus such as asthma, allergic bronchopneumonia, bronchitis, etc.

Administration: Average daily dose is one bottle of 500 cc. by continuous aerosolization, as directed by physician.

Form Supplied: Bottles of 500 cc.

Source: Winthrop-Stearns Inc., New York, N.Y.

BACITRACIN PARENTERAL

Description: A light lemon-colored dry powder form of bacitracin.

Indications: For treatment of infections due to penicillin-resistant strains.

Administration: Intramuscularly to hospitalized patients only, as directed by physician.

Form Supplied: Steri-Vials No. 107, each containing 50,000 units of bacitracin.

Source: Parke, Davis & Company, Detroit, Mich.

BIOPAR

Description: Each tablet contains: vitamin B_{12}, 6 mcg., and Intrinsic Factor, 30 mg.

Indications: For treatment of pernicious anemia, nutritional macrocytic anemias and tropical and nontropical sprue; also for conditions affecting appetite and growth; in relief of pain in trigeminal neuralgia, osteoporosis and other conditions.

Administration: In pernicious anemia, previously untreated or relapsed, five tablets daily for 14 days will usually produce a full clinical and hematologic response. Thenceforward, one tablet a day will maintain the patient in remission. In nutritional macrocytic anemia, two or three tablets daily with the maintenance dosage dependent on the patient's reaction. In other conditions, as prescribed by the physician.

Form Supplied: Bottles of 30 tablets.

Source: The Armour Laboratories, Chicago, Ill.

DISTRYCIN

Description: A preparation containing equal parts of streptomycin sulfate and dihydrostreptomycin sulfate.

Indications: In all conditions for which streptomycin or dihydrostreptomycin are usually prescribed.

Administration: As directed by the physician.

Form Supplied: Vials of 1 Gm. and 5 Gm.

Source: E. R. Squibb & Sons, New York, N.Y.

FUMIDIL

Description: Each capsule contains 10 mg. of fumagillin.

Indications: For the treatment of intestinal amebiasis.

Administration: Recommended oral dosage for the average adult is 30 to 60 mg. daily, in divided doses, three or four times a day, for 10 to 14 days.

Form Supplied: Bottles of 30 capsules.

Source: Abbott Laboratories, North Chicago, Ill.

MAGNAMYCIN

Description: Each tablet contains 100 mg. of carbomycin.

Indications: For treatment of resistant gram-positive infections.

Administration: As directed by physician.

Form Supplied: Vials of 25 and 100 tablets.

Source: Chas. Pfizer & Co., Inc., New York, N.Y

MYCITRACIN

Description: An ointment, containing in each gram: bacitracin, 500 units, and neomycin sulfate, 5 mg.

Indications: In the treatment of impetigo, barber's itch, infectious eczematoid dermatitis, infected ulcers, boils and other superficial pyogenic infections of the skin. It is also recommended in the prophy-

(Continued on next page)

laxis and treatment of secondarily infected burns and wounds.

Administration: Applications of the ointment are made, with or without bandages, from two to five times daily.

Form Supplied: Tubes of one-half oz.

Source: The Upjohn Company, Kalamazoo, Mich.

PERMAPEN

Description: A peach-flavored oral suspension, containing 300,000 units of dibenzylethylenediamine dipenicillin G per 5 cc.; also an aqueous suspension containing 600,000 units of Permapen in a Steraject syringe cartridge.

Indications: For use in rheumatic fever and in other conditions where this antibiotic is administered prophylactically.

Administration: Oral dose of 5 cc. as directed by physician.

Form Supplied: Bottles of 2 fl. oz. of oral suspension, and packs of 10 Steraject cartridges.

Source: Chas. Pfizer & Co., Inc., New York, N.Y.

PRO-BANTHINE

Description: Each sugar coated tablet contains: 15 mg. of β-diisopropylaminoethyl xanthene-9-carboxylate methobromide.

Indications: For treatment of peptic ulcer, gastritis and certain other gastrointestinal disorders; control of hyperemesis gravidarum, and hyperhidrosis.

Administration: One tablet with meals and two tablets at bedtime.

Form Supplied: Bottles of 100 and 1000 tablets.

Source: G. D. Searle & Co., Chicago, Ill.

SULFA-NEOLIN, SUSPENSION

Description: Each 5 cc. contains: sulfadiazine, 0.167 Gm.; sulfamerazine, 0.167 Gm.; sulfamethazine, 0.167 Gm.; dibenzylethylenediamine dipenicillin G, 300,000 units. Buffered with sodium citrate. Contains, as preservatives, methylparaben, 0.03 per cent; butylparaben, 0.015 per cent; and propylparaben, 0.03 per cent.

Indications: For treatment of those infections more sensitive to the combination of penicillin and sulfonamides than to either drug alone.

Administration: For children: the average dose is one teaspoonful orally four times daily; when maximal sulfonamide effect is desirable, the initial dose is one teaspoonful orally for each 11 pounds of body weight and the maintenance dose is one-fourth of the initial dose every six hours. For adults: the average dose is one teaspoonful orally four times daily; when maximal sulfonamide effect is desirable, initial dose is eight teaspoonfuls and the maintenance dose is two teaspoonfuls every four hours.

Form Supplied: Packages of 60 cc.

Source: Eli Lilly and Company, Indianapolis, Ind.

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy, and new dosage forms of prescription products.)

BEMOTINIC LIQUID

Ayerst, McKenna & Harrison Limited has just released Bemotinic Liquid, an effective, non-alcoholic, orange-flavored hematinic preparation for oral administration. It is supplied in bottles of 16 fl. oz.

BENTYL, NEW PACKAGE SIZES

Bentyl capsules, formerly packed 50 to a bottle, are now furnished by *The Wm. S. Merrell Company* in bottles of 100. Bentyl syrup, formerly 8-ounce bottles, is now available in pints. Capsules in bottles of 500 and syrup in gallons in both forms will continue to be offered.

METRAZOL LIQUIDUM

Metrazol Liquidum is replacing Metrazol 10% aqueous solution for oral administration, according to a recent announcement by *Bilhuber-Knoll Corp.* Each teaspoonful, (5 cc.) of Metrazol Liquidum contains Metrazol, 100 mg., and thiamine hydrochloride, 1 mg. in a palatable wine-like flavored elixir containing 15 per cent alcohol. Supplied in 1-pt. bottles.

NALLINE, NEW DOSAGE SIZE

Merck & Co., Inc., recently announced the availability of 1-cc. ampuls (5 mg.) of Nalline (N-allylnormorphine) in addition to the 2-cc. ampuls (10 mg.) previously marketed.

NEO-PENIL, SECOND SIZE

Neo-Penil is now available in a second size: multi-dose vials of 3,000,000 units each, according to a recent release by *Smith, Kline & French Laboratories.*

RIBODERM

The *Meyer Chemical Co., Inc.*, has recently introduced a new product called Riboderm. It is an aqueous solution of riboflavin, 10 mg. per cc., for the treatment of psoriasis. Sulppied in 10-cc. R/c vials.

TESTALDIOL

Testaldiol has recently been introduced by the *Meyer Chemical Co., Inc.* Each cc. of the aqueous solution for injection contains estradiol, 0.5 mg., and testosterone, 10 mg. Supplied in 10-cc. vials.

TOLYSPAS, NEW PACKAGE SIZE

Chicago Pharmacal Company has announced a new package form of Tolyspas, 500 tablets per bottle. This is in addition to their bottles of 100 and 1000 tablets.

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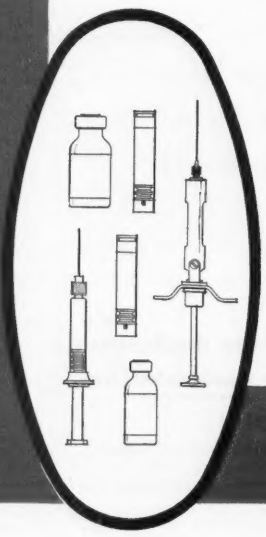

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